

**RESEARCH  
REPORT**

# Direct messages received from wagering operators

**August 2018**

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#### To cite this report

Hing, N, Russell, A, Rawat, V, 2018, *Direct messages received from wagering operators*, Victorian Responsible Gambling Foundation, Melbourne

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# Direct messages received from wagering operators

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CQUniversity Australia

August 2018



## Acknowledgements

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The research team gratefully acknowledges the financial support to conduct this research provided by the Victorian Responsible Gambling Foundation. We also acknowledge the assistance of two wagering operators, and their employees, who helped us to recruit some of the sports bettors and race bettors who participated in this study. We greatly appreciate the input of the many survey participants. Your contribution is highly valued. We also thank Associate Professor Matthew Browne from CQUniversity who provided expert advice on conducting the longitudinal data analysis.

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## Key terms and acronyms

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<b>Term</b>	<b>Description</b>
AFL	Australian Football League
CALD	Culturally and linguistically diverse
CQU	CQUniversity Australia
EMA	Ecological Momentary Assessment
GF	Grand Final
Melbourne Cup	Annual horse racing event held in Melbourne, Australia
NRL	National Rugby League
PGSI	Problem Gambling Severity Index
RQ	Research Question
SD	Standard Deviation
SMS	Short Messaging Service
Stage 1	Stage 1 of the current study (sample interest: sports bettors)
Stage 2	Stage 2 of the current study (sample interest: race bettors)
TV	Television
VRGF	Victorian Responsible Gambling Foundation

## Executive summary

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### Objectives of the study

Wagering operators frequently send direct promotional messages to their account-holders via text messages, emails and phone calls. However, very little research has examined this type of push marketing, and its features and influence are largely unknown. Early results from a large study on the *Effects of wagering marketing on vulnerable adults* (Hing, Russell, Rockloff et al., 2018) identified direct messaging as a widely used and highly influential form of wagering advertising. The Victorian Responsible Gambling Foundation (VRGF) therefore commissioned this more focused study on direct messaging as a small extension to the larger study. It commenced about 16 months later than the larger two-year study, and was conducted over five months from September 2017. It therefore represents a small component of the larger study, albeit presented in a separate report.

Given the lack of prior research into direct messaging, the study was exploratory and descriptive in nature, and was guided by the following research questions developed in consultation with the VRGF:

1. What volume and types of direct messages are received by wagering account-holders in the lead-up to major sport and racing events?
2. What is the content of the direct messages, and to what extent do they contain inducements to bet?
3. Are the volume, types, and content of direct messages received related to the previous betting behaviour of account-holders?
4. Are the volume, types, and content of direct messages received related to the subsequent betting behaviour of account-holders?
5. How might these direct messages contribute to gambling-related harm and gambling problems?

### Methods

After conducting a baseline survey measuring demographics, gambling behaviour, and problem gambling severity, we used an ecological momentary assessment (EMA) methodology involving short daily surveys of regular (at-least fortnightly) bettors. These surveys captured the number of emails, text messages, and phone calls they received from wagering operators, and how participants responded to these. Specifically, we surveyed 98 regular sports bettors each day for seven days in the week leading up to the 2017 Australian Football League (AFL) and National Rugby League (NRL) Grand Finals; and 104 regular race bettors during the week of the 2017 Melbourne Cup<sup>1</sup>. The participants also forwarded the text and email messages they received during each survey week to the research team. We conducted a content analysis of these 931 messages (579 emails, 352 texts) to ascertain their key characteristics, including the main content, bet type, and types of inducements and incentives they promoted.

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<sup>1</sup> AFL and NRL are the two major football codes in Australia and the sports which attract most betting. The Melbourne Cup is the most prestigious thoroughbred horse race on the Australian Racing Calendar, and is part of the Melbourne Spring Racing Carnival.

## Limitations

The study was modest in scope and budget, and drew on self-report data. While longitudinal analyses were incorporated, it did not set out to demonstrate any causal relationships between receiving these direct messages, experiences of gambling-related harm, and development or maintenance of problem gambling. Rather, its purpose was to provide some insights into the features of these messages, including their volume, types and content, as well as bettors' self-reported responses to them. The research was also limited by its small non-representative samples, some sample attrition over the survey weeks, its inclusion of only regular bettors, and its focus on a short time period leading up to a few major sports and racing events. These limitations should be borne in mind when considering the results below.

## Results

### Volume and types of direct messages received

- During the survey weeks, sports bettors received an average of 3.7 emails and 2.3 text messages, and race bettors 6.5 emails and 4.3 text messages; but very few phone calls.
- They received more messages immediately before the AFL/NRL Grand Finals and the Melbourne Cup than at other times during the survey weeks. Email volume spiked 1-2 days before these events; text messages spiked in the 24 hours before each event.
- Overall however, most bettors reported receiving about the same volume of messages during the survey weeks as other times of the year.

### Content of direct messages

- We content analysed 931 messages – 98 emails and 111 text messages from sports bettors; and 481 emails and 241 text messages from race bettors.
- The two major football codes dominated the sports betting messages (53% related to AFL; 43% to NRL); the vast majority of race betting messages related to horse racing (98%).
- Most messages advertised a wagering inducement, i.e., a sales promotion offering an incentive to bet (77% of sports betting messages; 88% of race betting messages). Sports betting messages most often promoted bonus or better winnings (47%), stake back (38%), and match your stake/deposit (36%) inducements. These were most often incentivised by bonus bets and reward points. The race betting messages most often promoted stake back (49%), match your stake/deposit (37%), and bonus or better odds (29%) inducements. These were most often incentivised by bonus bets, followed by reduced risk, and better odds/winnings.

### Relationships between the number, types and content of messages and previous betting behaviour

- The number and content (content type, bet type, inducement and incentive) of the messages received were not related to bettors' betting frequency or PGSI score/group.

## **Relationships between the number, types and content of messages and subsequent betting behaviour: Self-reported responses**

- The most common self-reported response to direct messages was to bet with the operator who had sent the message.
- Around one in five sports bettors and one in four race bettors also reported that, on *each day* they received them, these messages influenced them to place more bets, reminded them to bet, and to place unplanned bets. The messages prompted about one in ten of these sports bettors, and one in six race bettors, to place larger bets and riskier bets.
- We found no consistent differences amongst PGSI groups in their responses to direct messages, but these results are based on small sub-samples.

## **Relationships between the number, types and content of messages and subsequent betting behaviour: Longitudinal analyses**

- Amongst race bettors, the likelihood of betting within the next 24 hours increased with the volume of text messages received, and specifically refund/stake back offers and bonus/better odds offers.
- Amongst sports bettors, the likelihood of betting within the next 24 hours increased with the volume of both texts and emails received, including those with no inducement offers (which may serve as a general reminder to bet), as well as bonus/better winnings offers.
- Race betting expenditure in the next 24 hours increased with the volume of texts received; but the volume of texts or emails received and sports betting expenditure were not related.
- The content of direct messages (i.e., different types of inducements) did not predict betting expenditure within the next 24 hours by either race bettors or sports bettors. Instead, betting expenditure was related to special days (Melbourne Cup, AFL and NRL Grand Final days) and to problem gambler status.

## **How direct messages may contribute to gambling problems and harm**

This study was not designed to demonstrate causal relationships. Nevertheless, it identified several characteristics of direct messages with potential to contribute to gambling harm and problems.

- Push marketing is an economical and frequently used advertising strategy, providing regular bettors with daily reminders and inducements to bet. Although only a modest proportion of these messages prompt a direct response each time they are received, their daily delivery yields a substantial betting response overall.
- This response includes increased betting expenditure by prompting more bets, impulsive bets, riskier bets and larger bets. Smaller minorities of participants were influenced to place fewer, smaller or safer bets. On balance, direct messages have more harmful than beneficial effects on betting behaviour.
- Delivered directly to customers' mobile and other devices and containing a direct link to the betting website/app, these messages prompt impulsive betting decisions and betting more than planned. Thus, these advertising cues encourage impaired control over betting.

- Direct messaging is used mainly to promote betting inducements directly to consumers, and the most commonly promoted inducements are particularly effective in prompting increased betting expenditure and riskier betting (on bets with longer odds).
- The volume of direct messages received increases with the number of wagering accounts held. This further exposes vulnerable bettors to betting cues and inducements, because multiple account-holders are more frequent bettors with greater likelihood of problem gambling.

## Conclusions and implications

This study confirmed results from the *Effects* study (Hing, Russell, Rockloff, et al., 2018) that push marketing by wagering operators is intense, received almost daily, and is particularly influential on betting behaviour – more often prompting regular bettors to place more, larger and riskier bets than fewer, smaller or safer bets. Most direct messages promote wagering inducements, which increase losses by encouraging riskier bets and increased expenditure. Consumer education, social marketing and other interventions are needed to help bettors build resistance to this push marketing, including to wagering inducements. Wagering operators should ensure these messages do not misrepresent inducements as a safer betting strategy or misrepresent their likely returns. Given that two-fifths of at-least monthly bettors in Australia have one or more gambling problems (Armstrong & Carroll, 2017a, 2017b), banning this push marketing, limiting message frequency, or requiring a rigorous opt-in system, would be prudent regulatory measures.

Ongoing research is needed to support further evidence-based changes to wagering policies and practices, particularly to monitor effects on reducing betting-related harm. Further research could also confirm the causal and cumulative effects of direct messages, ideally through longitudinal cohort studies or experimental methodologies. Research with sufficiently large samples could examine their impacts on women, and Indigenous and culturally and linguistically diverse (CALD) Australians. Studies could also examine how push marketing by wagering operators interacts with personal, social-cultural, and environmental factors to influence betting behaviours. Further research is also needed to gain a theoretical understanding of the persuasive effects of direct wagering messages, and their effects on social norms, social practices, and socialisation. Importantly, research is needed to assess wagering operators' use of wagering account data to customise and target their push marketing – and the effects of this on betting-related problems and harm.

## Background

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Australians have the highest per capita gambling expenditure in the world and total gambling expenditure in 2015-16 reached \$23.6 billion, with 12.4% spent on race betting and 3.9% on sports betting (Queensland Government, 2017). Increased access to betting has been a major factor contributing to its growth. Betting on sports and races can be conducted via online websites and apps, by telephone, in off-course betting shops, in gambling venues (hotels, clubs, casinos), and at the racing and sporting events themselves. The legal betting age in Australia is 18 years and over.

Reflecting the popularity of wagering, advertising for sports betting and race betting is now prolific in Australia and spans a wide range of mass media including television (TV), radio, print and outdoor signage, as well as online, social, and mobile media. Sports betting advertising is the fastest growing category of advertising in Australia, and gambling is currently amongst the top 20 advertising categories based on commercial spend (Hickman & Bennett, 2016). The prominence of wagering advertising during the last decade has attracted widespread community concern (ACMA, 2013), has been the subject of several government inquiries (DBCDE, 2013; ECLC, 2018; JSCGR, 2011, 2013), and has been researched for its effects on Australian consumers (Hing, Russell, Rockloff, et al., 2018; Sproston, Hanley, Brook, Hing, & Gainsbury, 2015).

One type of advertising that wagering operators use is push marketing via direct messages to their account-holders through text messages, emails and phone calls. Less is known about direct messaging, compared to other forms of wagering advertising, as it occurs outside the view of the general public, gambling regulatory authorities, researchers and other stakeholders. Nevertheless, research suggests it is a common practice. A survey of 3,200 Australian adults found that four in ten received emails from sports betting companies, and two in ten received text messages via short messaging service (SMS), with similar figures for race betting messages; further, regular bettors and those with a gambling problem received these messages more often than did less involved bettors (Sproston et al., 2015). In qualitative research, bettors have described how they frequently receive direct text, email and phone communications that provide reminders and inducements to bet, leading some to bet more than intended (Hing, Cherney, Blaszczyński, Gainsbury, & Lubman, 2014). Overall however, very little research has examined this type of push marketing by wagering operators, and its features and influence have remained largely unknown.

Direct messaging is a popular advertising form because it allows wagering operators to bypass growing restrictions on wagering advertising in mass media. For example, amendments to the Australian broadcasting codes of conduct in 2013 curtailed the embedding of wagering promotions within televised sporting events; and more recent limits have been placed on gambling advertising during general TV viewing times, and in some outdoor locations in Victoria. In New South Wales, the publishing of gambling inducements has recently been outlawed; however, gambling advertising provided or made available by a wagering operator to an account-holder is not considered published, and so escapes this regulation. In response to this more restrictive advertising environment, wagering operators have been enhancing their direct advertising efforts, including through emails, text messaging and phone calls (Sproston et al., 2015). This type of advertising is low-cost and takes advantage of widespread consumer uptake of digital media and high levels of smartphone penetration in Australia (88% in 2017; Deloitte, 2017). These enhanced opportunities for mobile marketing can convey text, voice, visuals and video to customers anywhere and at any time (Barnes & Scornavacca, 2004). Direct and mobile messaging is particularly suited to the Australian sports and race betting market, which is predominantly comprised of young, educated adult males (Gainsbury, 2015) who have the highest level of smartphone ownership and usage of any demographic (Deloitte, 2017). Wagering operators are therefore well placed to capitalise on the marketing advantages afforded by

the unique features of the mobile medium - which have been described as 'ubiquity, convenience, personalization, localization, flexibility, spontaneity, immediacy, accessibility, time-criticality and instant connectivity' (Varnali & Toker, 2010, p. 146).

Drawing on marketing theory, the seminal Elaboration Likelihood Model proposes that persuasion occurs through two basic routes – through thoughtful consideration or peripheral cues (Petty & Cacioppo, 1986). Direct and mobile advertising is thought to be particularly persuasive for consumer purchases of low-cost, low involvement products, such as betting opportunities that do not require intensive processing of detailed information, but instead rely on peripheral prompts such as simple inferences or affective associations (Shanker & Balasubramanian, 2009). These messages are difficult for consumers to ignore, being delivered directly to their mobile device, computer or phone. They may therefore prompt cue-related buying responses and impulsive betting decisions, as consumers can easily and instantaneously respond by clicking on a direct link in the message or email to the betting app or website (Hing, Russell, Li, et al., 2018). Ease of use is a key determinant of technology-assisted product uptake (Davis, 1989), and accessing the message on the same device used for betting facilitates instant access, gratification and need fulfilment (Hing, Russell, Li, et al., 2018). This direct messaging at the point-of-sale may therefore prompt impulsive betting decisions, with one study finding that impulse betting is common amongst Australian sports bettors, especially those with higher problem gambling severity (Hing, Li, et al., 2018).

Research into push marketing, particularly on mobile devices, has found that the advertised benefit or incentive needs to be instant and recognisable for the message to be effective; thus, direct messages can be particularly effective to communicate advertising promotions (Barwise & Strong, 2002; Varnali & Toker, 2010). It is therefore not surprising that wagering operators use these types of messages to advertise promotional inducements to bet (although these messages can also be used to promote the betting brand, advertise other product features, and provide reminders to bet). Wagering inducements are sales promotions that offer one or more incentives to bet, in addition to what is normally offered by the core wagering product; further, the incentive is offered in conjunction with a specified betting-related activity and/or redeemed in a form that encourages betting (Hing, Sproston, Brading, & Brook, 2015). Examples of wagering inducements include stake-back offers, multi-bet offers, match your stake offers, odds boosts, competitions and happy hours (Hing, Sproston, et al., 2017). These inducements are typically incentivised by bonus bets, improved odds, cash rebates, money-back offers and rewards points. They have potential to undermine harm minimisation and responsible gambling by increasing and intensifying betting consumption, particularly on impulsive and risky bets (Hing, Sproston, et al., 2017). Direct messages promoting wagering inducements typically provide a direct link to the incentivised betting opportunity, facilitating easy uptake of these short-term offers. However, the extent to which wagering inducements are promoted through direct messaging and consumer responses to messages with inducements, are not well understood.

Push marketing via text messages, emails and phone calls can also be personalised and tailored to consumer characteristics and preferences, their individual consumption behaviour, and their local time and location (Scharl, Dickinger, & Murphy, 2005; Shanker & Balasubramanian, 2009). Because these messages are sent to existing account-holders, a relationship already exists between the customer and wagering operator, and direct messaging can be used for relationship marketing to enhance enduring brand loyalty and the retention of already engaged customers (Hunt, Arnett, & Madhavaram, 2006). This existing relationship also means that wagering operators can tailor messages based on past customer behaviour, which they can readily access from each customer's account-based wagering activity data. Online gamblers have reported receiving promotional emails from wagering operators when they have not bet for a while, welcoming them to come back and offering incentives to re-engage (Hing et al., 2014). Messages can also be tailored to remind customers when a favourite team is playing, when a horse is running that the customer previously placed a winning bet on, or to



offer promotions that the customer has previously engaged with. Direct messages and the bets they promote can also be timed to coincide with the lead-up to specific matches and major events, providing timely, attention-catching and actionable information. However, little is known about the timing and content of direct messages to wagering account-holders.

As noted earlier, this direct messaging study was a component of a larger study on the *Effects of wagering marketing on vulnerable adults* (Hing, Russell, Rockloff, et al., 2018).<sup>2</sup> The larger study examined a wide range of wagering advertising, in recognition that advertising can have cumulative effects on consumer behaviour, beyond the effects of individual forms of advertising. It found that direct messages from wagering operators (emails, texts and phone calls) were amongst the most frequently viewed and recalled types of wagering advertising, and were received by regular sports and race bettors on a near daily basis. Further, direct messages were reported to have the most influence on betting behaviour, compared to all other forms of wagering advertising. Specifically, based on research using an ecological momentary assessment design, direct messages were reported to influence the betting of 20.6% of sports bettors and 21.5% of race bettors on each of the 15 days that they were surveyed. Amongst these bettors, the most commonly reported responses to these messages were to place more bets and larger bets. Longitudinal analysis across the 15 survey days supported the self-report data, finding that greater exposure to direct messages from wagering operators increased intention to bet, and the likelihood of actually betting. It also found that, while aggregate exposure across *all* types of advertisements and inducements increased betting expenditure, direct messages from wagering operators had the *most* influence. These results were also supported in qualitative interviews with 31 regular race and sports bettors, conducted as part of the *Effects* study, where the intensity of direct messaging was identified as a key contextual factor that increases betting behaviour.

Overall, the larger *Effects* study (Hing, Russell, Rockloff, et al., 2018) concluded that direct messaging is the most problematic form of wagering advertising, compared to a wide range of other types of advertising, and that banning this push advertising or mandating rigorous opt-in requirements would be prudent regulatory measures. This conclusion was also based on the study's findings on wagering inducements – which may be promoted via these messages. Based on experimental, EMA, psychophysiological and interview research with samples of regular bettors, the *Effects* study concluded that wagering inducements encourage riskier betting (i.e., on bets with longer rather than shorter odds) and act to increase betting expenditure; even though they may be promoted by operators and perceived by bettors to lower the risk of betting and likely losses. Bets that are easy and quick to place through clicking on a link in a direct message, and which have the added perception of safety or better value for money, might be expected to contribute to gambling-related problems and harm.

In summary, previous research indicates that direct messages from wagering operators are frequently viewed by regular bettors, and appear to be highly influential on their betting behaviour. However, additional research is needed to better understand the timing of these messages around sports and racing events, as well as the content of these messages, including the extent to which they promote inducements to bet, and whether they are related to the betting behaviour of account-holders. More focused research into direct messaging, which extends upon research into wagering advertising more generally, is also needed to confirm previous findings about their influence on betting behaviour.

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<sup>2</sup> We encourage readers to consult the *Effects* report for a more comprehensive literature review than provided here.

## Research Questions

Wagering operators frequently send direct promotional messages to their account-holders via text messages, emails and phone calls. However, very little research has examined this type of push marketing, and its features and influence are largely unknown. Early results from a large study on the *Effects of wagering marketing on vulnerable adults* (Hing, Russell, Rockloff et al., 2018) identified direct messaging as a widely used and highly influential form of wagering advertising. The Victorian Responsible Gambling Foundation (VRGF) therefore commissioned this more focused study on direct messaging as a small extension to the larger study. It commenced about 16 months later than the larger two-year study, and was conducted over five months from September 2017. It therefore represents a small component of the larger study, albeit presented in a separate report.

Given the lack of prior research into direct messaging, the study was exploratory and descriptive in nature, and was guided by the following research questions developed in consultation with the VRGF:

1. What volume and types of direct messages are received by wagering account-holders in the lead-up to major sport and racing events?
2. What is the content of the direct messages, and to what extent do they contain inducements to bet?
3. Are the volume, types and content of direct messages received related to the previous betting behaviour of account-holders?
4. Are the volume, types, and content of direct messages received related to the subsequent betting behaviour of account-holders?
5. How might these direct messages contribute to gambling-related harm and gambling problems?

# Approach

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## Study design

To appropriately answer the research questions, the study utilised a method known as ecological momentary assessment (EMA). EMA methodology is appropriate to studying how behaviour changes over time by collecting repeated measurements of participants' experiences and behaviours in real, or close to real, time and in participants' natural environments (Shiffman, Stone, & Hufford, 2008). Defining features of an EMA methodology are that: it assesses phenomena as they occur; it requires careful timing of assessments; it involves numerous repeated observations; and assessments are typically made in the participant's natural context (Stone & Shiffman, 1994).

In this study, following their completion of a baseline survey, our participants were asked to respond to brief daily surveys over a one week period. Each survey was identical and focused on the direct messages they received from wagering operators in the preceding 24 hours, how these may have influenced their betting behaviour, as well as their daily betting intentions and actual betting activity. Administering frequent surveys and at short time intervals in this way minimises recall bias, while the approach also optimises ecological validity and allows dynamic influences on behaviour to be assessed in real-world contexts (Shiffman et al., 2008). The EMA method has been used to assess immediate influences on numerous other episodic health-related behaviours, including cigarette smoking (Shiffman et al., 2002), binge eating (Haedt-Matt & Keel, 2011), alcohol use (Hussong, Hicks, Levy, & Curran, 2001; Litt, Cooney, & Morse, 2000), and drug use (Freedman, Lester, McNamara, Milby, & Schumacher, 2006; Hopper et al., 2006). In the current study, the key influences of interest were the direct messages received from wagering operators.

EMA data for this research were collected in two stages. Stage 1 collected data from regular sports bettors in the week leading up to the 2017 Australian Football League (AFL) and National Rugby League (NRL) Grand Finals. Stage 2 collected data from regular race bettors during the week of the 2017 Melbourne Cup. Although the data were collected around different types of key events, the sampling, survey instruments, and general study design remained consistent, except that Stage 1 focused on sports betting and Stage 2 focused on race betting. Ethical approval for the study was obtained from CQUniversity Australia (CQU) Human Research Ethics Committee (1606-178).

## Recruitment and sampling

Participants for both stages of this study were purposefully sampled and recruited from a larger study being undertaken concurrently by the researchers (Hing, Russell, Rockloff, et al., 2018). That larger study involved recruiting at-least fortnightly sports bettors and at-least fortnightly race bettors from amongst account-holders with a major wagering operator licensed in Australia. It also utilised an EMA methodology to examine the influence of wagering inducements on betting behaviour. Please see Hing, Russell, Rockloff, et al. (2018) for a more detailed explanation of participant recruitment for the inducement EMA.

To optimise response rates in the current study, participants who had completed at least 12 of the 15 inducement EMA surveys and who had consented to being recontacted were invited to participate in this direct messaging study. To gain adequate numbers of problem gamblers for the planned

analyses, all those who had scored 8+ on the Problem Gambling Severity Index (PGSI; Ferris & Wynne, 2001) in the inducement EMA were also invited to participate in the direct messaging study.

For Stage 1, we emailed invitations to register for the study and complete a baseline survey to 194 sports bettors between 14 - 22 September 2017, and emailed invitations for Stage 2 to 218 race bettors between 23 - 24 October 2017.

Inclusion criteria comprised:

- Providing informed consent to participate;
- Being aged 18 years or over;
- Gamble at least once a fortnight on sports (for Stage 1) or races (for Stage 2);
- Had gambled on AFL/NRL (Stage 1) or races (Stage 2) in the last 12 months; and
- Were willing to answer multiple short surveys during the week before the AFL/NRL Grand Finals (for Stage 1) or the week of the Melbourne Cup (for Stage 2).

Because the study focused specifically on the messages received from wagering operators, it was important to exclude bettors who were currently opted out from receiving notifications or those who intended to opt-out. To recruit bettors who actually receive messages from operators, and to not unduly influence their behaviour (by requiring them to remain opted in if they had not intended to), two carefully worded screening questions captured whether they were currently opted in to receive notifications from wagering operators, and if they intended to remain opted in during the relevant data collection weeks. If participants selected no to either of these criteria they were excluded.

For Stage 1, 111 sports bettors completed the baseline survey, of whom 102 met our inclusion criteria. One bettor registered and then withdrew due to being unavailable during the EMA survey period; 4 participants failed the screening criteria; and there were 4 incomplete responses to the baseline survey. For Stage 2, 113 race bettors completed the baseline survey, of whom 110 were eligible. Three bettors failed the screening criteria. Overall we achieved response rates of just over 50% for the baseline survey for both stages.

## EMA survey procedure

Following the baseline survey, we sent out reminder messages a day before the EMA survey week commenced. Then, for 7 days at 4PM participants received a SMS message which included a link to the survey which they could complete on their mobile phone. Participants had 23 hours to complete the survey which was also indicated on the SMS invitation message.

The EMA surveys for Stage 1 (sports) ran from 26 September to 2 October 2017, and the surveys for Stage 2 (racing) ran from 3 - 9 November 2017. Each EMA survey took approximately 5 minutes to complete each day. Participants were reimbursed \$7 for each day they completed a survey, for a maximum compensation of \$49 in the form of a shopping voucher.

## Response rates

For Stage 1 (sports), 4 participants who completed the baseline survey and registered for the EMA completed 0 of the 7 surveys, leaving 98 participants who completed between 1 - 7 surveys. Almost two-thirds completed 6 - 7 surveys (Table 1).

For Stage 2 (racing), 6 participants who completed the baseline and registered for the EMA completed 0 of the 7 surveys, leaving 104 participants who completed between 1 - 7 surveys. Over two-thirds completed 6 - 7 surveys (Table 1).

**Table 1. Number of EMA surveys completed across the week**

Number of total surveys	Sports N (%)	Race N (%)
1	13 (13.3)	12 (11.5)
2	5 (5.1)	5 (4.8)
3	7 (7.1)	7 (6.7)
4	3 (3.1)	2 (1.9)
5	7 (7.1)	7 (6.7)
6	23 (23.5)	15 (14.4)
7	40 (40.8)	56 (53.8)

## Measures

The EMA survey for this study needed to be very short, as it was administered to participants on a daily basis. In order to gather relevant background information, participants first completed a baseline survey containing questions to ascertain their socio-demographic characteristics, past-year gambling behaviour, and problem gambling severity. The EMA survey questions were tightly focused on the direct messages they received from wagering operators during each assessment period and their betting-related responses to these. While other contextual factors can influence betting behaviour, such as other personal, socio-cultural and environmental factors, these were not examined due to the necessary constraints on the survey length.

### Baseline survey

The baseline survey (Appendix 1) contained the following measures:

- Socio-demographics: Gender, age, age when first started sports/race betting, state/territory of residence, highest educational level, main language spoken at home, country of birth, living arrangement, and employment status.
- Gambling behaviour: Sports/type of racing bet on in the last 12 months, frequency of sports/race betting in the last 12 months, which Australian-licensed wagering operators they have an account with, and frequency of betting with each wagering operator in the last 12 months.

- Problem Gambling Severity Index (Ferris & Wynne, 2001): Problem gambling status was captured using the validated and routinely used PGSI. The PGSI has nine items with four response options: never (0), sometimes (1), most of the time (2), and almost always (3). Total scores range from 0 to 27, with 0 = non-problem gambler, 1 - 2 = low-risk gambler, 3 - 7 = moderate risk gambler, and 8 - 27 = problem gambler.

## EMA surveys

The EMA surveys (Appendix 2) asked about the previous 24 hour period, and contained questions about:

- How many different wagering operators had contacted them via emails, text messages or phone calls;
- How many emails, text messages and phone calls (answered and unanswered) they had received from operators;
- How many of these emails, text messages, and phone calls had directly resulted in them placing, or planning to place, a bet ('none of them', 'a minority of them', 'about half of them', 'most of them', 'all of them');
- Whether the emails, text messages or phone calls received influenced their betting in various ways (e.g. 'to bet smaller amounts', 'to bet larger amounts', 'it reminded you to bet'), requiring a Yes/No response;
- Comparing the frequency of messages received in the 24 hours to messages received at other times of the year ('a lot less', 'a bit less', 'about the same', 'a bit more', 'a lot more');
- Which operators texted and phoned them;
- The nature of the phone messages received (e.g. a specific promotion around betting, their rewards program);
- Whether phone calls resulted in them placing bets *during the call*;
- Their perceptions of the messages received (useful, welcome, annoying, personalised, attractive, excessive, deceptive);
- How much money they had placed on sports/race bets in the past 24 hours and how much they intended to place on sports/race bets in the next 24 hours; and
- Participants were also asked to forward text messages and emails received to a dedicated research email / mobile number.

## Content analysis of messages

We conducted a systematic content analysis (Krippendorff, 2004) of the text messages and emails received from wagering operators by sports and race bettors and which were forwarded to us. Each email or text message was evaluated by a team member to determine the content variables, and verified by a second team member. Each message was coded against several criteria, listed below. The coded data were then linked back to the quantitative dataset using each participant's unique ID.

- Form of the message (text message or email);
- Date the message was received;
- Which type of sport or racing the message related to;
- An overall classification capturing the main content of the message. Messages were coded as: a specific promotional inducement for betting (e.g. bonus bets, cash back offer); reminder that a team/player/etc. you have bet on is playing; general reminder/prompt to bet; general reminder about the betting brand/operator; how to improve your betting experience (download app, replays, etc.); their rewards program; that you are not eligible for certain promotions, bets or odds; other;
- The bet type (no specific bet, match outcome, exotic events, micro bet, other);
- Whether the message was incentivised (yes/no);
- If incentivised, the type of incentive offered (bonus bet; better odds/winnings; reduced risk; cash back; reward points; other). This incentive represents the benefit or reward that the bettor becomes eligible to attain by taking up the inducement. An earlier audit of wagering inducements (Hing, Sproston, et al., 2015) identified bonus bets, better odds/winnings, reduced risk and cash back as the incentives offered by wagering inducements at that time, so these were included as incentive categories in the content analysis. Reward points were also included, being a more recently introduced type of incentive used in wagering inducements. An "other" category was also included for incentive types that did not align with any of these five categories;
- The type of inducement promoted. These were coded as: bonus or better winnings; refund/stake back offer; match (or partially match) your stake/deposit; multi bet offer; sign up offer; bonus or better odds; free bets (selected punters); competitions; winnings paid out even if you don't win; refer a friend offer; happy hour or similar offer; mobile betting offer; other free bets (e.g. predict the outcome of a match); cash rebate; reduced commission. These inducement types were based on those identified in an audit of wagering inducements (Hing, Sproston et al., 2015). Of note is that the same type of incentive can be offered in different types of wagering inducements, as shown in Table 2 below; and
- Whether or not a responsible gambling message, terms and conditions, and opt-out features were included in the message (yes/no).

**Table 2. Grouping of inducements into broader classes of incentives**

Classes of incentive	Type of inducement
Bonus bet	Sign-up offer
	Refer-a-friend offer
	Mobile betting offer
	Match (or partially match) your stake/deposit (with bonus bets)
	Competitions (where the payout is bonus bets)
	Free bets (selected punters)
	Other free bets (e.g., predict the outcome of a match)
	(Some) Multi-bet offers
Better odds/ winnings	Happy hour or similar offer
	Bonus or better odds offer
	Bonus or better winnings offer
	Reduced commission
	(Some) Multi-bet offers
Reduced risk	Refund/stake-back offer
	Winnings paid even if you don't win (e.g., protest calls, video referee decisions)
	(Some) Multi-bet offers
Cash rebate	Cash rebate (no play-through required)
Rewards points	Various, including betting activity, competitions, weekly prize pools, – mainly offered by Crownbet where rewards points are earned for every \$ of betting.

Not all messages forwarded to the research team were eligible to be included in the content analysis. Reasons for excluded message were:

- The message related to fantasy sports, lottery, or other non-sports/racing betting;
- The date of the message received fell outside of the study periods;
- The message was not directly received by the participant (e.g., advertisements seen on Facebook); and
- During the first stage (sports), contrary to the survey instructions, some participants sent through messages relating to horse racing. Similarly, during the second stage (race), some participants forwarded messages relating to sports. In cases where this occurred, the message was not coded.



# Data analysis to address each Research Question

## Research question 1

To address Research Question (RQ) 1 (what volume and types of direct messages are received by wagering account-holders in the lead-up to major sport and racing events?), descriptive analyses were undertaken of relevant data from the EMA surveys. These were: the volume of emails, text messages and phone calls received; the number of wagering operators they had received messages from; when the messages were received; and how the volume of messages received compared to other times of the year.

## Research question 2

To address RQ2 (what is the content of the direct messages, and to what extent do they contain inducements to bet?), the messages that participants forwarded to us were content analysed, in the manner described above. Of the 98 sports bettors and 104 race bettors who completed at least one of the EMA surveys, 62 sports bettors and 71 race bettors sent us at least some of the emails and text messages they received. The number of emails and text messages that participants reported receiving during the EMA survey periods correlated strongly with the number of emails they sent to us ( $r = .91$  for race bettors and  $.71$  for sports bettors). Similarly, the number of text messages reported in the surveys correlated strongly with the number that participants sent to us ( $r = .95$  for race bettors and  $.85$  for sports bettors). Thus, the number of emails and text messages sent to us was quite consistent with the survey data. In the EMA surveys, the participants also reported the number of phone calls they received, but these could not be forwarded to us.

## Research question 3

RQ3 addressed whether the volume, types and content of direct messages received (dependent variables) were related to the previous betting behaviour of account-holders (independent variables). The betting behaviour variables were derived from the baseline survey and comprised: PGSI group; betting frequency; and number of accounts with different operators. We used the EMA survey data to derive the total number and types of messages received because: there were no missing data; they strongly correlated to the messages that participants sent to us; and they included information about phone calls. The volume of messages was based on the total number of messages received, while types of messages were based on the number of emails, text messages and phone calls received.

Also in relation to RQ3, the content of the messages was based on results from the content analysis, specifically: the overall classification of the message; whether or not the message included incentives; incentive type; and type of inducement (see previous section on Content analysis of messages). When analysing how frequently participants had been exposed to each of these content variables, we needed to account for the fact that participants responded to varying numbers of surveys. For each participant, we therefore divided these variables by the overall number of messages they sent to us (and then multiplied by 100). Some messages included more than one type of incentive or inducement, and some messages included two different examples of the same type of inducement. Thus, these proportions sometimes exceeded 100%. Once we had computed summary variables capturing the total number of messages received, types of messages received, and message content, we added them to the EMA data for each participant, using participant IDs.

Table 3 contains a list of content variables that were received by fewer than eight participants, and have therefore been excluded from ongoing analyses. The number of messages received overall, as well as number of emails, text messages and phone calls, was naturally correlated with the total number of surveys completed and the number of accounts with different wagering operators. We describe these analyses later when presenting the results, as the results inform the analyses undertaken.

**Table 3. Excluded content from RQ3 analyses**

Variable and content type	Sports N	Race N
<i>Overall classification of message</i>		
Reminder that a team/player/etc. (sports stage) OR dog/horse/jockey (race stage) you've bet on is playing	0	5
General reminder about the betting brand/operator	1	2
How to improve your betting experience (download app, replays, etc.)	8	6
Their rewards program	3	3
That you are not eligible for certain promotions, bets or odds	0	0
Other	7	1
<i>Bet type</i>		
Micro bet	0	0
<i>Incentive</i>		
Other	5	2
Better odds/winnings	0	-
Cash rebate	4	-
<i>Inducement</i>		
Sign up offer	6	-
Bonus or better odds	4	-
Free bets (selected punters)	5	3
Competitions	4	-
Winnings paid out even if you don't win	0	1
Refer a friend offer	0	2
Happy hour or similar offer	0	0
Mobile betting offer	0	0
Other free bets (e.g. predict the outcome of a match)	0	0
Cash rebate	0	0
Reduced commission	0	0

## Research question 4

RQ4 addressed whether the volume, types, and content of direct messages received related to the subsequent betting behaviour of account-holders. Analysis for RQ4 generated relevant descriptive data, and also examined the relationship between how participants responded to these messages (the dependent variables) and betting behaviour and demographics (the independent variables). The

betting behaviour variables were the same as used for RQ3, and the demographics were age and education.

For RQ4, separately from the above analyses, we also conducted descriptive analyses that: 1) examined the amount of messages (by type: email, text message and phone calls) that directly resulted in bets being placed, or the planning of bets to be placed; and 2) examined what the respondents thought of the messages they received.

Because some variables were skewed, we considered nonparametric statistics for inferential analyses. However, initial data analysis indicated that it was important to control for other variables, and thus we used bootstrapped parametric partial correlations. Partial correlations are similar to bivariate correlations, except they can control for one or more other variables, and bootstrapping was used to deal with the skewed data. Because proportion-type variables were used for the message content, the variables were correlated (e.g. participants who reported receiving a higher proportion of messages containing a specific promotion around betting naturally reported receiving smaller proportions of the remaining classifications). To control for this, we used Bonferroni corrections on the bootstrapped partial correlations. As noted above, we only analysed message content for content types reported by a reasonable number of respondents. We have reported  $p$ -values for all significant analyses, rather than bootstrapped confidence intervals, as we expect most readers to be more familiar with  $p$ -values. Except where correcting Type I error with Bonferroni corrections, an alpha of .05 was used throughout.

We also conducted longitudinal analyses on the relationship between receiving direct messages and subsequent betting behaviour in the next 24 hours, separately for race and sports bettors. Our dependent variable was daily expenditure. We modelled this in two ways: as a no/yes variable, to determine whether exposure to direct messaging led to betting that day. For those who did bet on any day, we modelled the amount of expenditure. Because this latter variable was right skewed, we took the natural logarithm. Therefore, we have a two-stage model, to determine whether direct messaging was related to betting or not, and to betting expenditure.

The independent variables comprised three features of direct messaging: total number of messages on any day (regardless of whether they were email or text, or the type of content); total number of emails and texts (separately, regardless of the type of content) on any day; and total number of each type of inducement received on any day, whether via email or text. Initially we wanted to explore type of inducement by text and email separately, but they were highly correlated, causing issues with multicollinearity. Therefore we modelled type of inducement, regardless of whether it was received via text or email. Some inducements, and phone calls in general, were not received by many bettors, and thus could not be analysed.

The actual inducement type was coded by members of the research team based on emails and texts received from respondents, while all other information was obtained from a daily survey. Because of this, type of inducement data are missing for some respondents, and the number of observations in these analyses is lower than for analyses examining total number of emails and texts.

Our control variables were: whether or not the day in question was Melbourne Cup (for race bettors) or the AFL or NRL Grand Finals (for sports bettors) and whether the respondent was a problem gambler or moderate risk gambler.

We intended to control for betting intention and number of accounts with different operators. We also explored interactions for the direct messaging variables with PGSI groups, both problem gamblers, as well as moderate risk and problem gamblers combined, to determine if those in higher risk groups

were more likely to be influenced by direct messaging. These added little to the findings, and we therefore present the more parsimonious models.

We used the lme4 package in R for all models; the glmer function was used when expenditure was treated as a no/yes variable, and the lmer function for expenditure as a (log) dollar value when respondents reported betting. These functions allow for the specification of both random effects (individual ID) and fixed effects (all other variables). The models described above (predicting betting or not, and predicting betting expenditure) were run separately for race and for sports bettors. Thus, four models are reported. As they are independent from each other, an alpha of .05 was used throughout.

Once bivariate analyses were conducted, we considered multivariate models. These included individual ID as a random factor. The variables included in the model were either the number of texts and emails (separately) received each day, or the number of each type of content received each day. More information is given in the relevant results section.

## Participant characteristics

This section summarises the main characteristics of the baseline samples of sports bettors (n = 102) and race bettors (n = 110), with detailed tables in Appendix 3.

### Socio-demographics

Both samples were predominantly male (93% of both sports and race bettors), spoke English as their main language at home (94% of sports bettors, 99% of race bettors), and had been born in Australia (82% of sports bettors, 86% of race bettors). The mean age of sports bettors was 42 years (standard deviation [SD] = 13.82; range = 20 - 84 years), and 44 years (SD = 12.51; range = 24 - 72) for race bettors. The mean age when the sports betting participants started betting was 24 years (SD = 9.10; range = 14 - 62 years) and 22 years (SD = 8.01; range = 8 - 56) for race bettors. Both samples tended to reside in Victoria (47% of sports bettors, 56% of race bettors), reflecting that our original inducements EMA sample had oversampled Victorians. They also tended to be quite highly educated (68% of sports bettors and 66% of race bettors had post-secondary qualifications), partnered (72% of both samples), and employed full-time (69% of sports bettors, 64% of race bettors).

### Past year gambling behaviour

In the previous 12 months, the majority of sports bettors had bet on AFL (96%), NRL (78%), soccer (66%), tennis (61%), and/or cricket (50%). Smaller proportions had bet on American football, basketball, baseball, rugby union, boxing, mixed martial arts, golf and "other" sports. The sports they had most frequently bet on were football codes, with the majority having bet at least weekly on AFL (66%) and NRL (55%) during the past 12 months.<sup>3</sup> Almost all race bettors (99%) had bet on horse races in the past 12 months, and over two-thirds (68%) on greyhound races.

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<sup>3</sup> Sports are seasonal, and these frequencies are the participants' subjective estimate of the average over the past year.

Most participants had accounts with four or more Australian wagering operators (57% of sports bettors, 52% of race bettors). Only a minority of sports bettors had one (11%), two (20%) or three (13%) accounts. Only a minority of race bettors had one (16%), two (13%) or three (19%) accounts.

## **Problem gambling**

Amongst the sports bettors, 13.7% met criteria for problem gambling, 35.3% for moderate-risk gambling, 30.4% for low-risk gambling, and 20.6% for non-problem gambling. Amongst the race bettors, 20.9% met criteria for problem gambling, 34.5% for moderate-risk gambling, 23.6% for low-risk gambling, and 20.9% for non-problem gambling. Thus, over two-thirds of both samples were at-risk gamblers (low, moderate-risk, or problem), reflecting our sampling of at-least fortnightly bettors and our oversampling of problem gamblers in recruitment for the baseline survey.

## Results

This chapter presents the results for Research Questions 1 - 4. Research Question 5, which relates to the potential contribution of direct messaging by wagering operators to gambling-related harm and gambling problems, is addressed in the following chapter.

### RQ1: What volume and types of direct messages are received by wagering account-holders in the lead-up to major sport and racing events?

#### Volume and types of messages

Table 4 summarises the number of emails, text messages and phone calls received by the 98 sports bettors and 104 race bettors during the 7 day survey periods. On average during the survey week, each sports bettor received 3.7 emails (SD = 3.5; range = 0 - 16) and 2.3 text messages (SD = 2.6; range = 0 - 12); and each race bettor received 6.5 emails (SD = 6.8; range = 0 - 34) and 4.3 text messages (SD = 4.9; range = 0 - 28). Very few phone calls were received, so they are not examined further.

**Table 4. Total number of emails, text messages and phone calls received**

Message type	Sports N (%)	Race N (%)
Emails	364 (60.4)	671 (59.2)
Text messages	228 (37.8)	442 (39.0)
Calls answered	10 (1.7)	5 (0.4)
Calls unanswered	1 (0.2)	16 (1.4)
<b>Total</b>	<b>603</b>	<b>1,134</b>

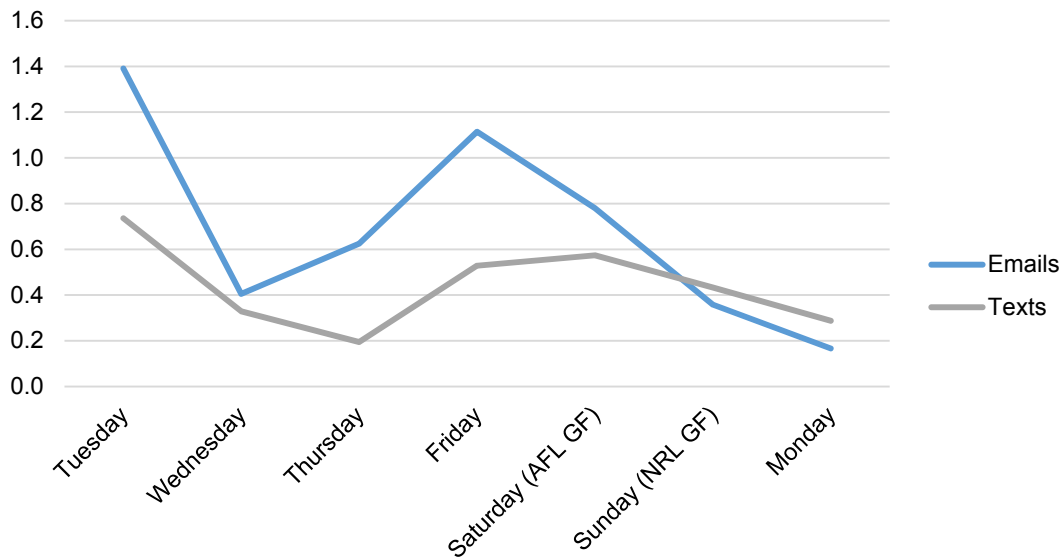
#### Number of wagering operators messages were received from

Amongst sports bettors, 44% did not receive messages from any wagering operators during the seven day survey period, 29% received messages from one operator, 18% from two operators, 6% from three operators, and 3% for from or more operators. Amongst race bettors, 35% did not receive messages from any wagering operators during the seven day survey period, 26% received messages from one operator, 17% from two operators, 10% from three operators, and 12% from four or more operators.

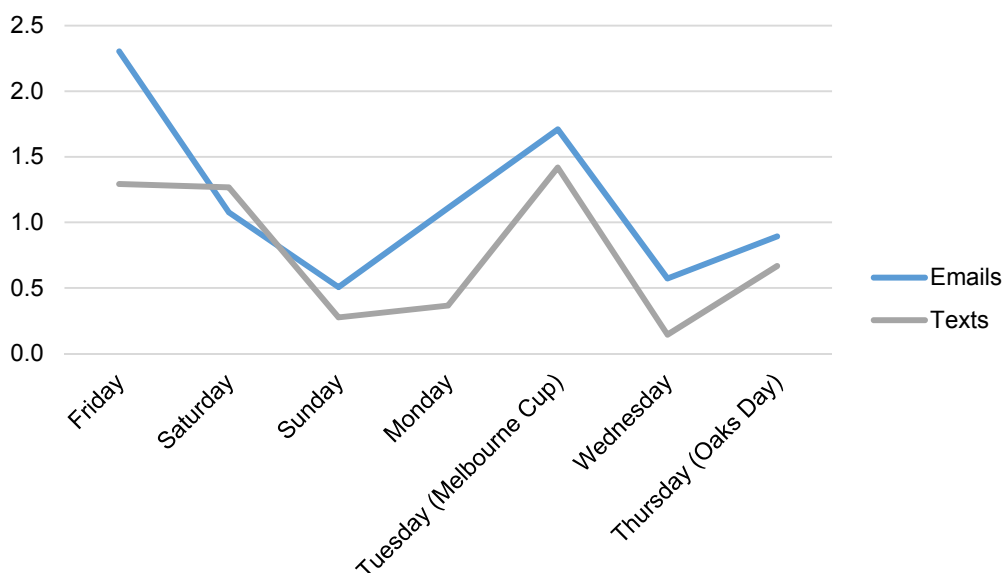
## Timing of messages<sup>4</sup>

Figure 1 and Figure 2 graph the mean number of emails and text messages received on each day of the survey week by the sports bettors and race bettors, respectively. Figure 1 displays a notable spike in emails received on the days leading up to the AFL/NRL Grand Finals, and a decrease on the actual Grand Final days. Figure 2 indicates that both emails and texts for race betting increased the day before Melbourne Cup Day and peaked on the day of the race itself.

**Figure 1. Mean number of emails and text messages received by sports bettors per day**



**Figure 2. Mean number of emails and text messages received by race bettors per day**



<sup>4</sup> The days (x-axis) on Figures 1 – 4 refer to the preceding 24 hour period up to 4PM that day. For example 'Tuesday' on Figure 1 relates to messages received in the 24 hours up to 4PM Tuesday; 'Wednesday' relates to messages received up to 4PM Wednesday; and so on.

## Comparison of message timing between sports

We were forwarded 209 messages from the sports bettor participants, comprising 98 emails and 111 text messages. A content analysis enabled us to distinguish between the timing of these messages for the two main types of sports they pertained to: AFL and NRL. Figure 3 shows little difference in the timing of emails for AFL and NRL.

**Figure 3. Mean number of emails received by type of sport**

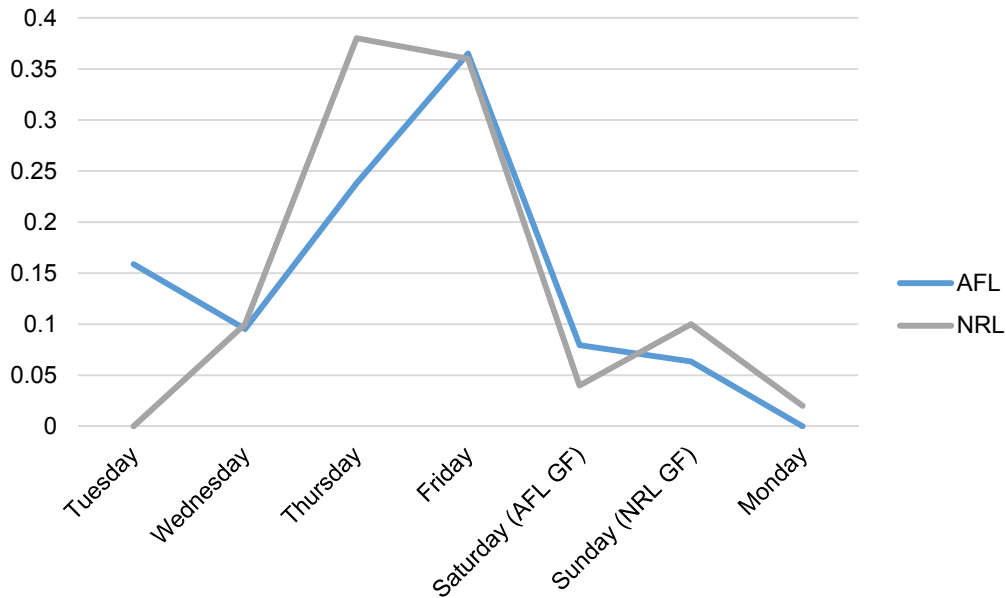
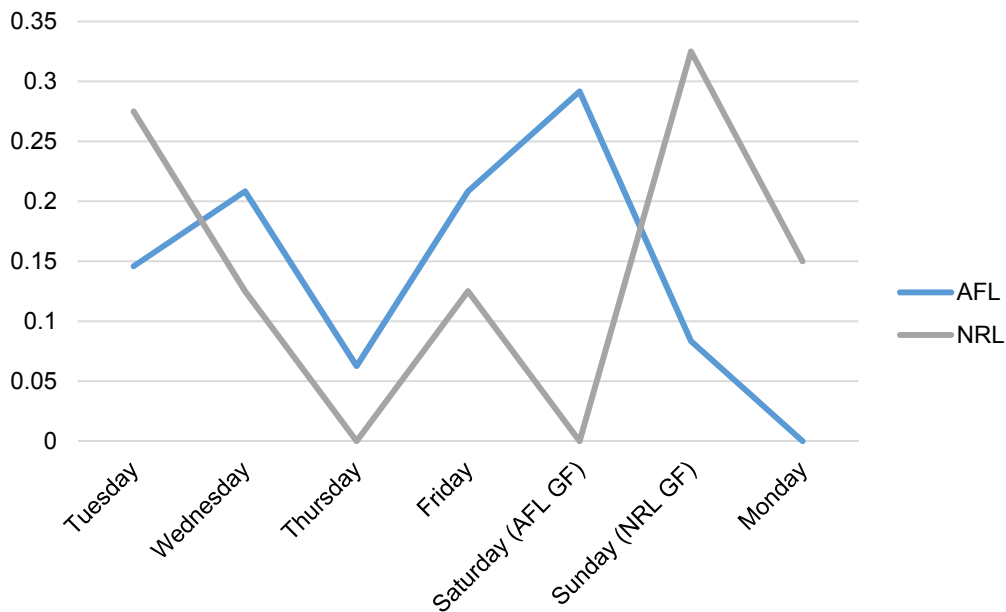


Figure 4 highlights that the highest number of text messages were received in the 24 hours leading up to the AFL/NRL Grand Finals respectively.

**Figure 4. Mean number of text messages received by type of sport**





## Comparative frequency of messages

During the EMA survey periods, 47% of sports bettors and 42% of race bettors reported that the frequency of messages they received was about the same as they received at other times of the year. Smaller percentages (21% of sports bettors and 31% of race bettors) reported receiving more messages than usual. About one-third of sports bettors (32%) and one-quarter of race bettors (27%) reported receiving fewer messages compared to other times of the year.

## RQ2: What is the content of the direct messages, and to what extent do they contain inducements to bet?

Participants were asked to forward the emails and text messages they received from wagering operators during the seven day EMA survey period to the research team. This section presents descriptive results from a content analysis of these messages.

Participants forwarded a total of 931 messages (Table 5). Race betting messages (n = 722) greatly outnumbered sports betting messages (n = 209). Amongst the sports betting messages, text messages slightly outnumbered email messages. The reverse was found amongst the race betting messages, with double the number of emails than text messages.

**Table 5. Type of message received**

Message type	Sports N (%)	Race N (%)
Emails	98 (46.9)	481 (66.6)
Text messages	111 (53.1)	241 (33.4)

The vast majority of messages during stage 1 related to AFL (53%) or NRL (43%) and to horse racing (98%) during stage 2 (Table 6). A single message sometimes contained information relating to multiple sports, or multiple types of racing, so percentage totals may exceed 100%. This also applies to the results presented below for bet type, inducements and incentives.

**Table 6. Type of sport/racing the messages related to**

Stage 1 (Sport)	N (%)	Stage 2 (Race)	N (%)
No sport type	39 (18.7)	No race type	14 (1.9)
AFL	111 (53.1)	Horse	704 (97.5)
NRL	90 (43.1)	Dog/greyhound	4 (0.6)
Other sport	12 (5.7)	Trotting/harness	2 (0.3)

The vast majority of messages for both stages related to specific promotions for betting (74% for sports betting, 88% for race betting), followed by general reminders or prompts to bet (16% for sports betting, 7% for race betting) (Table 7). Specific promotions were more common amongst race betting

than sports betting messages, while general reminders or prompts to bet were more common amongst sports betting than race betting messages.

**Table 7. Classification of messages**

Overall classification of message	Sports N (%)	Race N (%)
A specific promotion around betting (e.g. bonus bets, cash back offer)	155 (74.2)	637 (88.2)
General reminder/prompt to bet	34 (16.3)	47 (6.5)
Reminder that a team/player/etc. (sports stage) OR dog/horse/jockey (race stage) you've bet on is playing	-	25 (3.5)
How to improve your betting experience (download app, replays, etc.)	8 (3.8)	7 (1.0)
Their rewards program	6 (1.4)	3 (0.4)
General reminder about the betting brand/operator	1 (0.5)	2 (0.3)
That you are not eligible for certain promotions, bets or odds	-	-
Other	8 (3.8)	1 (0.1)

Table 8 presents a breakdown of the type of bet that the messages promoted. The most common was a bet on the outcome of the event (also known as a head to head bet). This was more common amongst race betting (68%) than sports betting (50%) messages. Exotic bets were promoted more in the sports betting messages (38%) than in the race betting messages (18%). No messages promoted micro bets. Over one-third of sports betting (37%) and race betting (38%) messages did not pertain to a specific type of bet; instead, they most commonly related to promotions requiring a deposit rather than a specific bet to be made (such as match your stake offers).

**Table 8. Bet type**

Bet type	Sports N (%)	Race N (%)
None	78 (37.3)	275 (38.1)
Outcome bet	105 (50.2)	487 (67.5)
Exotic bet	79 (37.8)	126 (17.5)
Micro bet	-	-

## Incentives offered

The majority of messages contained one or more incentives to bet: 76.6% (n = 160) of sports betting messages, and 88.4% (n = 638) of race betting messages. The most common incentives offered during both stages were bonus bets, which represented 58% of the incentives in both the sports and race betting messages (Table 9). This was followed by reduced risk (37%) and better odds/winnings (36%) for race bettors, and reward points (51%) and reduced risk (23%) for sports bettors. Cash back incentives were the least common incentive for both stages. Thus, while bonus bet incentives were widely used in promotional inducements for both sports and race betting, reduced risk and better odds/winnings were more common for race betting, and rewards points were more common for sports betting.

**Table 9. Incentives offered**

Incentive	Sports N (%)	Race N (%)
Bonus bet	92 (57.5)	367 (57.5)
Reduced risk	37 (23.1)	238 (37.3)
Better odds/winnings	-	229 (35.9)
Reward points	82 (51.3)	124 (19.4)
Cash back	9 (5.6)	109 (17.1)
Other	5 (3.1)	6 (0.9)

## Inducements to bet

Table 10 presents results for the types of inducements that the messages promoted. Sports bettors were most commonly offered bonus or better winnings, refund/stake back offers, and match your stake/deposit inducements. The most common inducements offered to race bettors were refund/stake back offers, followed by match your stake/deposit offers, and bonus or better odds offers. Compared to race betting messages, the sports betting messages were more likely to promote bonus or better winnings inducements; whereas race betting messages were more likely to promote refund/stake back offers, bonus or better odds promotions, and sign up offers. Examples of these common promotional offers are presented in Appendix 4.

**Table 10. Inducements offered**

Inducement	Sports N (%)	Race N (%)
Bonus or better winnings	75 (46.9)	89 (13.9)
Refund/stake back offer	60 (37.5)	312 (48.9)
Match (or partially match) your stake/deposit	58 (36.3)	236 (37.0)
Multi bet offer	34 (21.3)	21 (3.3)
Sign up offer	11 (6.9)	149 (23.4)
Bonus or better odds	8 (5)	183 (28.7)
Free bets (selected punters)	6 (3.8)	3 (0.5)
Competitions	4 (2.5)	14 (2.2)
Winnings paid out even if you don't win	-	1 (0.2)
Refer a friend offer	-	2 (0.3)
Happy hour or similar offer	-	-
Mobile betting offer	-	-
Other free bets (e.g. predict the outcome of a match)	-	-
Cash rebate	-	-
Reduced commission	-	-

## **Additional message features**

Over 90% of messages during both stages contained 1) a responsible gambling message, 2) terms and conditions (or provided a link to further terms and conditions), and 3) an option to opt out of receiving any further notifications from the operator.

## **RQ3: Are the volume, types and content of direct messages received related to the previous betting behaviour of account-holders?**

### **Relationships between volume and types of messages received, and gambling risk and betting behaviour (sports bettors)**

To address RQ3, we examined relationships between the number, types and content of direct messages received and certain gambling risk and betting behaviour variables.

As some variables were skewed, we initially conducted non-parametric (Spearman) correlations between the number of messages overall, as well as the number of each type (email, text messages, phone calls), and PGSI (both score and groups), frequency of betting, number of operator accounts, and number of total EMA surveys completed.

As expected, the volume of messages participants received correlated with the number of surveys they completed ( $r_s = .26, p = .010$ ). To compensate for this, we used partial correlations to be able to control for more than one variable. The partial correlations were bootstrapped (1000 draws). We report standard  $p$ -values here, but note that they are in agreement (in terms of statistical significance) with the bootstrapped results, unless stated otherwise.

Bootstrapped partial correlations revealed that participants with more accounts with different operators received significantly more messages than those with fewer accounts ( $r = .28, p = .006$ ). The number of accounts was significantly correlated with the number of text messages received ( $r = .25, p = .014$ ), but not emails ( $r = .19, p = .058$ ) or phone calls ( $r = .02, p = .890$ ).

Controlling for the number of surveys completed and the number of accounts with different operators, none of the betting behaviours (PGSI group, PGSI score, frequency of sports betting) were correlated with the number or types of messages received. There was also no significant relationship between PGSI score and number of accounts ( $r_s = .07, p = .514$ ). Based on these results, receiving more sports betting messages is related to having more accounts with different operators, and not necessarily frequency of sports betting or gambling risk status. Thus, having more accounts means a higher likelihood of receiving more direct messages.

## **Relationships between volume and types of messages received, and gambling risk and betting behaviour (race bettors)**

We used the same analysis as above for race bettors. The number of messages received was significantly correlated with the number of surveys completed ( $r_s = .36, p < .004$ ), so we used bootstrapped partial correlations for the following tests.

As for the sports bettors, when controlling for the number of surveys completed, the number of operator accounts was correlated with the number of messages received by the race bettors ( $r = .35, p < .001$ ). Unlike the results for the sports bettors, the number of operators was significantly correlated with both the number of emails ( $r = .33, p = .001$ ) and text messages ( $r = .29, p = .003$ ) received by the race bettors, but not phone calls ( $r = .12$ ).

When controlling for both the total number of surveys completed and the number of accounts with different operators, none of the betting variables (PGSI group, PGSI score and frequency of race betting) were correlated with the number or types of messages received. These results indicate that the number of messages received by the race bettors is related to the number of accounts with different operators, and not necessarily to frequency of betting or gambling risk level.

## **Relationships between content of messages received, and gambling risk and betting behaviour (sports bettors)**

To determine any relationship between the content of the message (overall classification, bet type, inducement and incentive), we used the same approach as above for the number and types of messages. That is, we examined the relationship between the number of each classification, bet type, incentive and inducement received, and PGSI (score and group) and sports betting frequency. Again, we used bootstrapped partial correlations, controlling for the number of surveys completed and the number of accounts with different operators.

None of the message content variables were significantly correlated with either PGSI or sports betting frequency. Thus, the content of direct messages received was not related to betting frequency and gambling risk level of the sports bettors.

## **Relationships between content of messages received, and gambling risk and betting behaviour (race bettors)**

We used the same analysis as above for race bettors. There was no relationship between the content of messages received, and PGSI or race betting frequency.

## RQ4: Are the volume, types, and content of direct messages received related to the subsequent betting behaviour of account-holders?

### Reported influence on betting (type of influence)

Analyses for RQ4 examined participants' reported responses to the messages received, and any relationship between their response (the dependent variables) and their gambling risk, betting behaviour and demographics (the independent variables). The gambling risk and betting behaviour variables were the same as those used for RQ3, and the demographics were age (raw score) and education (recoded as those who had completed education after year 12, vs those who had not).

Table 11 indicates the weighted mean of the proportion of sports and race bettors who reported being influenced in various ways by the messages they received on each EMA survey day. These proportions are based on those who reported receiving any type of message (email, text, or phone call) on each particular day.

**Table 11. Influences of direct messages received**

Influence	Sports Weighted mean %	Race Weighted mean %
Bet smaller amounts	5.7	4.3
Bet larger amounts	9.9	15.9
Place fewer bets	4.6	5.6
Place more bets	18.4	26.0
Place safer bets (shorter odds)	7.4	11.9
Place riskier bets (longer odds)	11.3	14.8
Bet with the operator who sent the message	31.1	40.6
Reminded you to bet	24.0	23.1
Place a bet you otherwise wouldn't have placed	21.2	22.3
Other influence	2.5	4.2

Note. Weighted mean % was calculated by multiplying the percentage reported on each day by the number of respondents who participated each day, summing those values and dividing by the total number of respondents.

On a typical day during the survey period, the most common response to these messages, by nearly one in three sports bettors who received any type of message, was to bet with the operator who had sent the message. Additionally, around one in five sports bettors reported that these messages reminded them to bet, influenced them to place a bet they otherwise would not have placed, and to place more bets. These messages prompted about one in ten to place riskier bets, and to bet larger amounts.

We computed variables to determine on how many days each sport bettor reported each influence. We used bootstrapped partial correlations (controlling for the number of surveys completed and number of accounts with different operators) to correlate each of the 10 influences with PGSI group and score, and sports betting frequency. We also included age and education as potential correlates.

Gender was not included as most sports bettors were male. When controlling for the number of surveys and number of accounts, age, education, and sports betting frequency were not correlated with any of the influences (when bootstrapped confidence intervals were also examined).

The following relationships with PGSI scores were significant both in terms of  $p$ -value and bootstrapped confidence intervals, after applying a Bonferroni correction. Sports bettors with higher PGSI scores were significantly more likely to report being influenced by direct messages to bet smaller amounts ( $r = .33, p = .001$ ) and to place fewer bets ( $r = .48, p < .001$ ). However, these results are based on only a small number of people, so should be interpreted with caution.

Table 11 above shows the weighted mean of the proportion of race bettors indicating that they had been influenced by the messages they received on each day of the survey. On a typical day during the survey period, the most common response to these messages, by 41% of race bettors, was to bet with the operator who had sent the message. Additionally, around one in four race bettors who received any type of message reported that these messages influenced them to place more bets, reminded them to bet, and to place a bet they otherwise would not have placed. About one in six were influenced to place larger bets, and to place riskier bets.

We used the same procedures as above to correlate each of the 10 message influences with PGSI group and score and race betting frequency. Younger people and less frequent race bettors were significantly more likely to report that the direct messages reminded them to bet ( $r = -.28, p = .005$  and  $r = -.29, p = .003$  respectively). Race bettors with higher PGSI scores were significantly more likely to report that the direct messages influenced them to place riskier bets (i.e., longer odds;  $r = .25, p = .011$ ). Race bettors in lower PGSI groups were significantly more likely to report that the direct messages influenced them to place safer bets (shorter odds;  $r = -.27, p = .007$ ).

## Reported influence on betting (by message type)

Respondents who had received each type of message (i.e. emails, text messages, phone calls) were asked how many directly resulted in them placing, or planning to place, a bet (Table 12).

On average, around half of phone calls, but only a minority of emails and text messages received by sports bettors, were reported to directly result in bets being placed or planned. However, far more emails and text messages were received by sports bettors compared to phone calls. Due to the very low numbers of reported phone calls, these data must be interpreted with caution.

Like the sports bettors, a minority of emails and text messages received by the race bettors were reported to directly result in bets being placed or planned. Only a small number of race bettors received phone calls, so these data must be interpreted with caution.

**Table 12. Mean (SD) ratings of how many messages (by type) resulted in sports bettors placing, or planning to place, a bet**

Influence	Sports Weighted mean %	Race Weighted mean %
Emails	1.65	1.63
Text messages	1.66	1.71
Phone calls	3.00	2.11

Note. Response options were: none of them (1); a minority of them (2); about half of them (3); most of them (4); all of them (5). Weighted means were calculated by multiplying the mean reported on each day by the number of respondents participating each day, summing those values and dividing by the total number of respondents. NA = Not applicable.

## Perception of messages

Respondents were asked what they thought of the messages (overall) on each day of the survey, using seven different adjectives: useful, welcome, annoying, personalised, attractive, excessive and deceptive (Table 13).

In general, sports bettors did not feel particularly strongly about the messages. Messages were reported as somewhat useful, welcome, personalised and attractive, while ratings for annoying, excessive and deceptive were slightly lower.

Like the sports bettors, the race bettors did not feel particularly strongly about these messages. They perceived the messages as somewhat useful, welcome and attractive. They were slightly less annoying, personalised and excessive. They were not perceived to be particularly deceptive.

**Table 13. Mean (SD) perception of messages by sports bettors**

Perception	Sports Weighted mean %	Race Weighted mean %
Useful	2.31	2.39
Welcome	2.54	2.38
Annoying	2.10	2.16
Personalised	2.27	2.08
Attractive	2.34	2.31
Excessive	1.91	2.06
Deceptive	1.62	1.69

Note. Perceptions were rated from 1 (not at all) to 5 (extremely). Weighted means were calculated by multiplying the mean reported on each day by the number of respondents participating each day, summing those values and dividing by the total number of respondents.



## Influences of messages on subsequent betting expenditure

This section presents results of the longitudinal analyses, to assess whether the direct messages received were related to whether the respondent bet in the subsequent 24 hours, and if so, the amount bet. In each of the tables below, four columns of results are presented. Column A presents the bivariate analyses indicating whether each variable is individually related to betting (no/yes, or amount bet). Column B considers just the channel of direct messages (i.e., texts or emails) in a multivariate analysis, controlling for PGSI status as well as any big betting days (Melbourne Cup, or AFL or NRL Grand Final days). Column C considers the actual content of the messages (i.e., specific inducements) in a multivariate analysis, controlling for PGSI status and big betting days. Finally, Column D is a multivariate analysis of specific inducements controlling for PGSI status and big betting days, but only includes inducements significantly associated with betting (no/yes, or size of bet) in the bivariate analyses. These analyses therefore determine which direct message channels and content are related to the placement of bets and to betting expenditure, both with and without controlling for other important variables.<sup>5</sup>

### Are direct messages associated with subsequent placement of bets?

#### Race bettors

Table 14 indicates whether direct messaging channels or content are related to placing a bet on any individual day amongst race bettors. The bivariate results (A) indicate that the following factors predict placing a bet: total number of direct messages received, total number of texts received, total number of stake back offers received and total number of bonus odds offers received.

The multivariate analysis for channel (B) indicates that the total number of texts remains significant when controlling for whether or not it was Melbourne Cup day, and whether or not the respondent scored in the problem gambling category.

The multivariate analysis for content (C) indicates that no specific inducement was related to betting, when controlling for Melbourne Cup day and PGSI status. However, when only the bivariate-significant inducements are considered (D) both refund/stake back offers and bonus/better odds offers are significant when controlling for Melbourne Cup day and problem gambling status.

Together, the results indicate that direct messages via text, and specifically refund/stake back offers and bonus/better odds offers, are related to subsequently placing a bet for race bettors.

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<sup>5</sup> We also attempted to include the individual inducements in the models for each channel (i.e., text and email), but they were too highly correlated and we ran into collinearity issues. What was clear was that the most common inducements (the ones included in the longitudinal models) were received by both email and text in approximately equal quantities.

**Table 14. Longitudinal models predicting betting (no vs yes) for race bettors each day, based on direct message channel and content**

Variable	(A) Bivariate	(B) Multivariate (channel)	(C) Multivariate (content)	(D) Multivariate (content, bivariate significant only)
Total direct messages	0.140** (0.049)			
Total emails	0.123 (0.068)	0.016 (0.077)		
Total texts	0.352*** (0.107)	0.276* (0.116)		
Total no inducement	0.061 (0.108)		0.034 (0.109)	
Total sign up offers	0.050 (0.062)		-0.245 (0.165)	
Total refund/stake back offers	0.166* (0.066)		0.110 (0.082)	0.069*** (0.002)
Total match stake/deposit offers	0.050 (0.054)		0.068 (0.133)	
Total bonus/better odds	0.208* (0.100)		0.158 (0.119)	0.137*** (0.002)
Total bonus/better winnings	0.140 (0.124)		0.165 (0.178)	
Melbourne Cup day (ref no)	1.523*** (0.396)	1.382*** (0.403)	2.131** (0.650)	2.019*** (0.002)
PGSI moderate risk or problem gambler (ref no)	-0.144 (0.236)			
PGSI problem gambler (ref no)	-0.305 (0.290)	-0.265 (0.309)	0.294 (0.484)	
<i>Constant</i>		0.717*** (0.167)	0.692** (0.219)	0.799*** (0.002)
Observations		567	375	375
Log Likelihood		-321.900	-198.315	-200.145
Akaike Inf. Crit.		655.800	416.629	410.290
Bayesian Inf. Crit.		681.843	455.898	429.924

Note. Dependent variable is daily expenditure (no/yes).  $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ . Random factor is individual ID.

## **Sports bettors**

Table 15 indicates which variables were related to placing a bet on each day amongst sports bettors. The bivariate results (A) indicate that the following factors were related to placing a bet: total number of direct messages received, total number of emails received, total number of texts received, including messages with no inducements. The only specific inducement related to placing a bet was bonus/better winnings offers.

The multivariate model for channel (B) indicates that the total number of both texts and emails received remains a significant predictor of placing a bet, when controlling for whether it was AFL or NRL Grand Final day, and problem gambling status.

The multivariate model for content (C) found that messages with no inducement were significantly related to placing a bet, but no specific inducement was related. However, when only including bonus/better winnings and no inducement messages in the model (D), both were statistically significant predictors of placing a bet.

Taken together, the results indicate that sports bettors respond to both emails and texts, including ones with no inducement offers (which may serve as a general reminder to bet), and that bonus/better winnings offers were related to placing a bet.

**Table 15. Longitudinal models predicting betting (no vs yes) for sports bettors each day, based on direct message channel and content**

Variable	(A) Bivariate	(B) Multivariate (channel)	(C) Multivariate (content)	(D) Multivariate (content, bivariate significant only)
Total direct messages	0.504*** (0.099)			
Total emails	0.428*** (0.118)	0.413** (0.131)		
Total texts	0.948*** (0.204)	0.832*** (0.220)		
Total no inducement	0.584* (0.237)		0.706* (0.278)	0.702** (0.272)
Total refund/stake back offers	0.199 (0.142)		0.146 (0.168)	
Total match stake/deposit offers	-0.013 (0.168)		0.239 (0.199)	
Total bonus/better winnings	0.360* (0.150)		0.342 (0.177)	0.382* (0.170)
AFL Grand Final day (ref no)	2.156*** (0.441)	2.375*** (0.464)	3.115*** (0.699)	2.999*** (0.687)
NRL Grand Final day (ref no)	0.871** (0.328)	1.387*** (0.361)	1.805*** (0.521)	1.707*** (0.506)
PGSI moderate risk or problem gambler (ref no)	0.484 (0.299)			
PGSI problem gambler (ref no)	-0.088 (0.444)	-0.201 (0.504)	-0.445 (0.662)	
<i>Constant</i>		-0.350 (0.220)	-0.152 (0.290)	-0.077 (0.252)
Observations		509	317	317
Log Likelihood		-282.552	-171.586	-172.889
Akaike Inf. Crit.		579.104	361.173	357.779
Bayesian Inf. Crit.		608.731	395.003	380.332

Note. Dependent variable is daily expenditure (no/yes).  $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$  Random factor is individual ID.

## Are direct messages associated with subsequent betting expenditure?

### Race bettors

Table 16 which variables were related to race bettors' betting expenditure subsequent to receiving direct messages. This analysis only considered bets placed, i.e., no zero values were included. The bivariate results (A) indicate that the following factors were related to higher expenditure: total number of direct messages received, total number of texts received, sign up offers, refund/stake back offers, match your stake/deposit offers, and bonus/better odds offers.

The multivariate model for channel (B) found that total number of texts received remained significant when controlling for Melbourne Cup day and problem gambling status. Number of emails remained a non-significant predictor of betting expenditure.

The multivariate model for content (C) found that no specific inducements remained significant when controlling for Melbourne Cup day or PGSI, as well as each other, indicating that none of these inducements had a significant *unique* association with betting expenditure. When only considering inducements that were significant in the bivariate models (D), once again none of the individual inducements had a *unique* association with betting expenditure.

**Table 16. Longitudinal models predicting betting expenditure for race bettors who bet each day, based on direct message channel and content**

Variable	(A) Bivariate	(B) Multivariate (channel)	(C) Multivariate (content)	(D) Multivariate (content, bivariate significant only)
Total direct messages	0.091*** (0.021)			
Total emails	0.057 (0.032)	-0.032 (0.031)		
Total texts	0.268*** (0.044)	0.200*** (0.047)		
Total no inducement	0.001 (0.037)		-0.010 (0.034)	
Total sign up offers	0.077** (0.025)		0.049 (0.057)	0.049 (0.057)
Total refund/stake back offers	0.099*** (0.022)		0.049 (0.031)	0.048 (0.031)
Total match stake/deposit offers	0.046* (0.023)		-0.049 (0.049)	-0.052 (0.048)
Total bonus/better odds	0.134** (0.041)		0.063 (0.044)	0.062 (0.044)
Total bonus/better winnings	0.034 (0.049)		-0.016 (0.057)	
Melbourne Cup day (ref no)	0.820*** (0.113)	0.675*** (0.118)	0.655*** (0.136)	0.659*** (0.134)
PGSI moderate risk or problem gambler (ref no)	0.383 (0.291)			
PGSI problem gambler (ref no)	0.780* (0.359)	0.770* (0.356)	0.596 (0.486)	0.597 (0.484)
<i>Constant</i>		3.957*** (0.166)	4.077*** (0.207)	4.072*** (0.206)
Observations		404	277	277
Log Likelihood		-612.826	-426.276	-421.939
Akaike Inf. Crit.		1239.651	874.552	861.879
Bayesian Inf. Crit.		1267.661	914.416	894.495

Note. Dependent variable is daily expenditure (log(\$)). \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ . Random factor is individual ID.

## Sports bettors

Table 17 indicates which variables predict betting expenditure amongst sports bettors. None of the characteristics of direct messages, whether considering channel (A, B), or content (A, C), were significant predictors of betting expenditure, either in bivariate or multivariate models.

**Table 17. Longitudinal models predicting betting expenditure for sports bettors who bet each day, based on direct message channel and content**

Variable	(A) Bivariate	(B) Multivariate (channel)	(C) Multivariate (content)	(D) Multivariate (content, bivariate significant only)
Total direct messages	0.003 (0.034)			
Total emails	-0.027 (0.040)	-0.019 (0.039)		
Total texts	0.084 (0.074)	0.076 (0.072)		
Total no inducement	0.077 (0.077)		0.086 (0.077)	
Total refund/stake back offers	-0.047 (0.051)		-0.087 (0.056)	
Total match stake/deposit offers	-0.023 (0.070)		-0.007 (0.074)	
Total bonus/better winnings	0.044 (0.053)		0.071 (0.059)	
AFL Grand Final day (ref no)	0.298** (0.103)	0.346** (0.106)	0.191 (0.140)	0.357*** (0.105)
NRL Grand Final day (ref no)	0.185 (0.113)	0.274* (0.116)	0.131 (0.150)	0.279* (0.114)
PGSI moderate risk or problem gambler (ref no)	0.571* (0.264)			
PGSI problem gambler (ref no)	0.760* (0.381)	0.756* (0.384)	0.772 (0.433)	0.737 (0.382)
<i>Constant</i>		3.486*** (0.157)	3.578*** (0.176)	3.515*** (0.146)
Observations		314	198	314
Log Likelihood		-435.011	-275.512	-431.632
Akaike Inf. Crit.		886.022	571.024	875.264
Bayesian Inf. Crit.		916.017	603.907	897.760

Note. Dependent variable is daily expenditure (log(\$)).  $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ . Random factor is individual ID.

## Discussion and Conclusions

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This chapter summarises key findings in relation to RQ1-RQ4, and then discusses them to address RQ5. Conclusions and implications are presented, including suggestions for further research.

### **RQ1: What volume and types of direct messages are received by wagering account-holders in the lead-up to major sport and racing events?**

Regular bettors are frequently exposed to direct messages from wagering operators. The sports bettors received six messages and the race bettors received 11 messages, on average, during each week of surveys; and they reported receiving a similar volume of messages at other times of the year. Amongst both sports and race bettors, approximately 60% of the messages were emails and around 38% were text messages, with very few phone calls received. This finding reflects the ease and minimal cost of sending bulk emails and text messages, compared to the cost and staff time associated with making individual phone calls to account-holders. By mainly using emails and SMS, wagering operators have little economic reason to moderate the volume of direct messages to their customers.

The direct messages were clearly timed to peak just before the major sporting events (AFL and NRL Grand Finals) and the Melbourne Cup horse race. For sports betting, the emails and texts preceded the event by 24 hours, whereas for race betting they peaked on the day of the event itself. Emails tended to have a longer lead time than texts, particularly for sports betting. These findings suggest that wagering operators are aware of different patterns of betting amongst the different types of gamblers, and that they anticipate a more immediate response to text messages than to emails – and time their messages to leverage these tendencies.

### **RQ2: What is the content of the direct messages, and to what extent do they contain inducements to bet?**

Direct messages are overwhelmingly used to promote wagering inducements, rather than to provide a more generic reminder or encouragement to bet. This is an important finding, given that direct messages are one of the most influential forms of advertising on betting expenditure (Hing, Russell, Rockloff, et al., 2018). In the current study, wagering inducements were promoted in 88% of the race betting messages and 74% of the sports betting messages that participants forwarded to the research team. Amongst sports bettors, these messages most frequently promoted bonus/better winnings, stake back offers, match your stake/deposit inducements, and multi bet offers; and these types of inducements were most commonly incentivised with bonus bets and reward points. Race bettors were most frequently offered stake back offers, match your stake/deposit offers, and bonus/better odds offers; and these types of inducements were most often incentivised by the prospect of bonus bets, reduced risk, and better odds of winning.

In the *Effects* study (Hing, Russell, Rockloff, et al., 2018), the most frequently seen inducement types across the whole range of wagering advertising were multi-bet offers, stake back offers, and match your stake or deposit offers. The added prominence of bonus or better winnings and odds amongst the messages in the current study suggests that direct messaging may have particular utility in



promoting increased winnings/odds for special events such as grand finals and signature races. Compared to other forms of advertising, direct messages can be cheaply and easily adapted to short-term offers, so they are especially suited to special promotional deals that may be available only for a limited time. Direct messages also avoid restrictions on promoting inducements in some jurisdictions. For example, gambling inducements cannot be advertised to NSW residents; but direct messages to account-holders are exempt from this restriction as direct messages are not considered to be advertisements to the public at large (Liquor & Gaming NSW, 2017).

### **RQ3: Are the volume, types and content of direct messages received related to the previous betting behaviour of account-holders?**

Of interest in this study was whether the volume, types and content of direct messages varied with, or appeared to be tailored to, the past-year betting frequency and gambling risk status of participants. However, we found no evidence that past-year betting frequency and PGSI score/group were related to: the volume of direct messages received; the types of messages received (emails, texts, phone calls); the overall classification of each message (e.g., specific promotion, general reminder to bet); the type of bet promoted (no specific type, outcome bet, exotic bet, micro bet); type of incentive (bonus bet, reduced risk, better odds/winnings, rewards points, cash back); or type of inducement promoted (15 types). However, the study included only regular bettors, so there was only limited variation in betting frequency amongst participants. Further, the gambling risk status of account-holders is not known to wagering operators, unless they impute this based on behavioural betting data, and so could not be used to inform their messaging strategy. The only relationship found was that the number of direct messages received increased with the number of accounts with different wagering operators. Thus, not surprisingly, having more accounts means a higher likelihood of receiving more direct messages.

### **RQ4: Are the volume, types, and content of direct messages received related to the subsequent betting behaviour of account-holders?**

#### **Self-reported influences**

The most common reported response, on each day of the survey period amongst participants who received direct messages, was to bet with the operator who had sent the message (31% of sports bettors, 41% of race bettors). The next most commonly reported influences of these messages on those who received them were: to remind them to bet (24% of sports bettors, 23% of race bettors); to place a bet they otherwise would not have placed (21% of sports bettors; 22% of race bettors); to place more bets (18% of sports bettors, 26% of race bettors); to place riskier bets (11% of sports bettors; 15% of race bettors); and to bet larger amounts (10% of sports bettors; 16% of race bettors). While these proportions appear small, they represent the average proportion influenced *in each 24 hour period* that direct wagering messages are received. In alignment with the current study, the *Effects* study (Hing, Russell, Rockloff, et al., 2018) also found that direct messages from wagering operators are received by regular bettors every 1-2 days, on average. It also found that these messages are one of the most influential forms of advertising in increasing betting expenditure, with over twice as many bettors reporting they prompt them to place larger rather than smaller bets, and

nearly four times as many being prompted to place more rather than fewer bets. Thus, the overall effect of direct messaging on betting behaviour appears to be substantial.

No consistent results were found between the reported influences of direct messages and the PGSI scores of participants. Sports bettors with higher PGSI scores were more likely to report placing smaller and fewer bets in response to direct messages. However, only 5.7% of the sports bettors who received direct messages on each survey day reported being influenced to place smaller bets, and only 4.6% were influenced to place fewer bets. Thus, these results are based on a very small subset of participants and should be interpreted with caution. In contrast to the sports bettors, the race bettors with higher PGSI scores were more likely to report placing riskier bets in response to direct messages. Overall, 14.8% of race bettors who received direct messages on each survey day reported this influence. Younger people and less frequent race bettors were also more likely to report that the direct messages reminded them to bet.

## Longitudinal analyses

The longitudinal analyses found that various features of direct messages were related to the subsequent placement of bets. Amongst race bettors, the likelihood of betting within the next 24 hours increased with the number of text messages received, and specifically with the number of refund/stake back offers and bonus/better odds offers received. Amongst sports bettors, the likelihood of betting within the next 24 hours increased with the number of both texts and emails received, including those with no inducement offers (which may serve as a general reminder to bet), as well as the number of bonus/better winnings offers.

Amongst race bettors, betting expenditure within the next 24 hours increased with the number of texts received (but not emails); but no relationship was found between the number of texts or emails received and sports betting expenditure. The content of direct messages (i.e., different types of inducements) did not predict the amount that was bet within the next 24 hours by either race bettors or sports bettors. This may be because inducements are often capped (e.g., match your stake up to \$100). Instead, betting expenditure was related to special days (Melbourne Cup, AFL and NRL Grand Final days) and to problem gambler status.

Of note is that the effects examined in the longitudinal analysis related only to subsequent betting within the next 24 hours, and did not take into account any cumulative effects of direct messaging. The number of texts received appeared to better predict betting within the next 24 hours, compared to the number of emails received, as people tend to read and respond to texts more swiftly. This result is consistent with earlier findings that texts were more likely to be received on the day of the special event, with a longer lead time for emails. Thus, operators appear to recognise that texts are likely to get a more immediate betting response compared to emails.

## RQ5: How might these direct messages contribute to gambling-related harm and gambling problems?

This section draws on the findings above to address RQ5, which focuses on how direct messages from wagering operators *may* contribute to gambling-related harm and gambling problems. Of note is that this study was modest in scope and drew on self-report data. While longitudinal analysis was incorporated, the study did not set out to collect data to demonstrate any causal relationships between receiving these direct messages, experiences of gambling-related harm, and development or maintenance of problem gambling. Rather, its purpose was to provide some insights into the features

of these messages, including their volume, types and content, as well as bettors' self-reported responses to them. The research was also limited by its small non-representative samples, attrition over the survey weeks, its inclusion of only regular bettors, and its focus on a short time period leading up to a few major sports and racing events. Nevertheless, the study has identified several characteristics of direct messages from wagering operators that indicate their potential to contribute to gambling-related harm and gambling problems.

Push marketing via emails and text messages is an economical advertising strategy, which can therefore be employed on a very frequent basis so that regular bettors receive daily reminders and inducements. Even if only a modest proportion of these messages prompt an immediate or direct response, as found in this study, the frequency of these messages results in a substantial betting response overall. This response affects the market share of wagering operators when people bet with the operator sending the message. However, direct messages were also reported to increase betting expenditure by prompting the placement of more bets, impulsive bets, riskier bets and larger bets. The longitudinal analyses also found that receiving more text messages increased both the likelihood of betting and betting expenditure within the subsequent 24 hours amongst race bettors; and receiving more texts and emails increased the likelihood of betting within the next 24 hours amongst sports bettors. Previous research has concluded that exposure to marketing cues generally correlates with increased engagement with potentially addictive products such as gambling, and particularly to trigger automated responses amongst moderate to heavy users (Martin et al., 2013). Several studies have demonstrated this correlation between exposure to gambling advertising and gambling intentions and behaviour (Derevensky, Sklar, Gupta, & Messerlian, 2010; Korn, Reynolds, & Hurson, 2005; Lee, Lemanski, & Jun, 2008), including advertising and promotions for wagering (Hing, Lamont, Vitartas, & Fink, 2015a; Sproston et al., 2015). Most recently, the *Effects* study (Hing, Russell, Rockloff, et al., 2018) provided stronger evidence for this relationship, including longitudinal EMA data, that identified direct messaging as the most widely seen and influential type of advertising on betting intentions and behaviour. The current study provides further evidence to indicate that direct messages sent by wagering operators increase betting activity and expenditure. They therefore increase the potential for bettors to experience gambling-related problems and harm.

This push marketing is delivered directly to account-holders' mobile device, computer or smartphone. Direct messages are therefore difficult to ignore and may prompt impulsive betting decisions, as customers can easily and instantaneously respond by clicking on a direct link in the message to the betting app or website. In the current study, over one in five bettors who received direct messages on any given day were prompted to place a bet that they otherwise would not have placed. The longitudinal analysis also showed that the likelihood of betting within the subsequent 24 hours increased with the number of messages received. This impulsive approach to betting likely results in betting more than planned, reflecting that these direct betting cues can encourage impaired control over gambling. Further, impulse betting is particularly common amongst bettors with higher problem gambling severity (Hing, Li, et al., 2018), so they may be more susceptible to direct messages which provide betting-related cues. Previous research has found that people with gambling problems are most responsive to gambling advertising in general (Binde, 2014), including wagering advertising and promotions (Hing, Lamont, Vitartas, & Fink, 2015b; Hing, Russell, Vitartas, & Lamont, 2016). However, the *Effects* study (Hing, Russell, Rockloff, et al., 2018) found that wagering advertising and inducements increase betting expenditure, and the tendency to place riskier bets (those with longer odds), amongst regular bettors in all gambler risk groups. Thus, any differences in the effect of direct wagering messages in prompting unplanned and impulsive betting amongst different gambler risk groups remains to be confirmed. Nevertheless, the current study provides evidence that direct wagering messages can prompt impulsive betting, increasing the risk of gambling-related problems and harm for some bettors.

As noted above, this study found that direct messages usually promote a wagering inducement, most commonly bonus or better winnings, a stake back offer, a match your stake/deposit offer, or a multi bet offer. These offers are typically incentivised with bonus bets, reward points, reduced risk, and/or better odds. These inducements have potential to undermine harm minimisation and responsible gambling by increasing and intensifying betting consumption, particularly on impulsive and risky bets with long odds (Hing, Sproston, et al., 2017; Lopez-Gonzalez, Estévez, & Griffiths, 2017; Lopez-Gonzalez, & Griffiths, 2017; Newall, 2015, 2017). Previous research has found that uptake of wagering inducements is especially effective in stimulating impulse betting among problem gamblers (Hing, Russell, Li et al., 2018). The *Effects* study (Hing, Russell, Rockloff, et al., 2018) found that, while aggregate exposure to *all* types of wagering advertisements and inducements increases betting expenditure, the inducements with *most* influence are multi bet offers and rewards program inducements for sports bettors, and stake back offers for race bettors. It also found that bettors are more likely to place riskier bets (with longer odds) when inducements to bet are offered, compared to when inducements are not offered. Thus, direct messaging is used mainly to promote betting inducements directly to consumers, and the most commonly promoted inducements are particularly effective in prompting increased betting expenditure and greater risk-taking. The current study also found that aggregate exposure to direct messages increased the likelihood of betting, with stake back offers and bonus/better odds offers being particularly attractive to race bettors, and bonus/better winnings offers to sports bettors.

The most common self-reported response to the direct wagering messages received was to prompt participants to bet with a particular operator. The messages also served as a reminder to bet, particularly amongst younger or less frequent race bettors. Substantial minorities of bettors also reported that the messages influenced them to place bets they otherwise would not have, suggesting an impulsive response to these messages, as discussed earlier. Other reasonably common responses were to place more bets, riskier bets, and larger bets, which clearly increases betting expenditure, likely losses and the potential for betting-related harm (Hing, Sproston et al., 2017). Smaller minorities of participants were influenced to place fewer, smaller or safer bets. These results are generally consistent with results from the *Effects* study (Hing, Russell, Rockloff, et al., 2018). Thus, on balance, it appears that direct messages have more harmful than beneficial effects on betting behaviour. These messages therefore not only influence the distribution of market share amongst wagering operators, but also increase betting consumption and likely harm.

The volume of messages received was found to correlate with the number of accounts that participants held with different wagering operators. Multiple account-holders are more frequent bettors with greater likelihood of problem gambling, and who tend to move between operators to secure the best promotions (Gainsbury et al., 2015). Having more accounts leads to receiving more direct messages, which therefore results in further exposure of vulnerable bettors to promotional messages for wagering inducements. However, this study found no clear pattern of how these messages influence betting behaviour by PGSI group, with inconsistencies found amongst sports bettors compared to race bettors. This result is generally inconsistent with previous research and may be due to the small, non-representative samples in our study, the short data collection period, and its timing immediately prior to major betting events. It also relied on self-reported data which may be subject to recall and social desirability bias. Nevertheless, it may be that direct messages are influential across the spectrum of PGSI groups and contribute to gambling-related harm at all PGSI levels through prompting unintended, more, larger and riskier bets.

## Conclusions and implications

The current study confirmed the results from the *Effects* study (Hing, Russell, Rockloff, et al., 2018) that push marketing by wagering operators is intense, received almost daily, and is particularly influential on the betting behaviour of regular bettors – more often prompting them to place more, larger and riskier bets than to place fewer, smaller or safer bets. These studies also found that the majority of these direct messages promote specific wagering inducements, which are often portrayed by operators and perceived by bettors as reducing the risks and increasing the returns associated with betting. However, these inducements actually increase, rather than decrease, losses by encouraging riskier bets and increased betting expenditure (Hing, Russell, Rockloff, et al., 2018). Thus, as also recommended in the *Effects* study, consumer education, social marketing and other interventions are needed to help bettors build resistance to push marketing by wagering operators, including to the wagering inducements they most commonly promote. Wagering operators should ensure that these messages do not misrepresent these inducements as a safer betting strategy or encourage misperceptions of their likely returns. Two-fifths of at-least monthly sports and race bettors in Australia currently meet criteria for at-risk or problem gambling (Armstrong & Carroll, 2017a, 2017b), so a prudent regulatory measure would be to ban this type of push advertising, or to replace the current opt-out system with a rigorous opt-in system to receive these targeted betting cues. Wagering operators could also be required to limit the frequency of these messages, particularly to bettors showing signs of harmful gambling, who could be reliably identified through behavioural analysis of wagering data. Ongoing research is needed to support further evidence-based changes to wagering policies and practices, particularly to monitor their effects on reducing betting-related harm.

Further research could also confirm the causal and cumulative effects of direct messages, ideally through longitudinal cohort studies. Research with sufficiently large samples is also needed to examine the impacts of direct wagering messages on specific populations including women, CALD Australians, and Aboriginal and Torres Strait Islanders. Research could also examine how push marketing by wagering operators interacts with personal, social-cultural, and environmental factors to influence betting behaviours.

Additional research is also needed to understand the process of persuasion involved in direct wagering messages. Direct messages are an effective form of advertising to gain attention, given they are delivered directly to each account-holder's mobile and other devices. Some bettors also clearly act on these messages through the placement of bets in response. However, the current study did not investigate how direct wagering messages convert consumers' attention into interest, desire and action, as proposed by the classic AIDA model of advertising persuasion (Rawal, 2013). Research could also examine the extent to which the persuasive effects of direct wagering messages are due to thoughtful consideration compared to the provision of peripheral cues, as proposed by the Elaboration Likelihood Model (Petty & Cacioppo, 1986). Overall, explanatory research is needed to gain a theoretical understanding of the persuasive effects of direct wagering messages. Push marketing, like other forms of marketing, can also have other effects beyond persuasion, including influencing social norms, social practices, and socialisation. Additional research is needed to understand these other effects of direct messaging by wagering operators.

Research into how operators use the behavioural betting data of their account-holders to inform the personalisation, timing and content of direct messages would be particularly valuable. Participants in this study considered the direct messages they received to be somewhat personalised, but the basis for this assessment is unclear. Given that push marketing for other products and services is clearly linked to recent online behaviour, it is important that future research assesses wagering operators' use of wagering account data to customise and target their push marketing – and the effects of this on betting-related problems and harm.

## References

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- Armstrong, A., & Carroll, M. (2017a). *Sports betting in Australia*. Melbourne: Australian Gambling Research Centre. Retrieved from: <https://aifs.gov.au/agrc/publications/sports-betting-australia>
- Armstrong, A., & Carroll, M. (2017b). *Race betting in Australia*. Melbourne: Australian Gambling Research Centre. Retrieved from: <https://aifs.gov.au/agrc/publications/race-betting-australia>
- Australian Communication and Media Authority. (2013). *Betting odds and advertising for betting agencies during sports broadcasts: Community research*. Canberra: ACMA.
- Barnes, S. J., & Scornavacca, E. (2004). Mobile marketing: The role of permission and acceptance. *International Journal of Mobile Communications*, 2(2), 128-139. doi:10.1504/IJMC.2004.004663
- Barwise, P., & Strong, C. (2002). Permission-based mobile advertising. *Journal of Interactive Marketing*, 16(1), 14-24. doi:10.1002/dir.10000
- Binde, P. (2014). *Gambling advertising: A critical research review*. London: Responsible Gambling Trust. Retrieved from [https://about.gambleaware.org/media/1165/binde\\_rgt\\_report\\_gambling\\_advertising\\_2014\\_final\\_color\\_115p.pdf](https://about.gambleaware.org/media/1165/binde_rgt_report_gambling_advertising_2014_final_color_115p.pdf)
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340. doi:10.2307/249008
- Deloitte (2017). *Mobile consumer survey 2017: The Australian cut*. Retrieved from <https://www2.deloitte.com/au/mobile-consumer-survey>
- Department of Broadband Communications and the Digital Economy (DBCDE). (2013). *Final report 2012: Review of the Interactive Gambling Act 2001*. Canberra: DBCDE.
- Derevensky J., Sklar A., Gupta R., & Messerlian C. (2010). An empirical study examining the impact of gambling advertisements on adolescent gambling attitudes and behaviors. *International Journal of Mental Health and Addiction*, 8(1), 21-34. doi:10.1007/s11469-009-9211-7
- Environment and Communications Legislation Committee (ECLC). (2018). *Communications Legislation Amendment (Online Content Services and Other Measures) Bill 2017*. Canberra: Commonwealth of Australia.
- Ferris, J. A., & Wynne, H. J. (2001). *The Canadian problem gambling index: Final report*. Ottawa, ON: Canadian Centre on Substance Abuse. Retrieved from <http://www.ccgr.ca/en/projects/resources/CPGI-Final-Report-English.pdf>
- Freedman, M. J., Lester, K. M., McNamara, C., Milby, J. B., & Schumacher, J. E. (2006). Cell phones for ecological momentary assessment with cocaine-addicted homeless patients in treatment. *Journal of Substance Abuse Treatment*, 30(2), 105-111. doi:10.1016/j.jsat.2005.10.005
- Gainsbury, S. (2012). *Internet gambling: Current research findings and implications*. New York: Springer.

- Gainsbury, S., Russell, A., Blaszczynski, A., & Hing, N. (2015). Greater involvement and diversity of Internet gambling as a risk factor for problem gambling. *European Journal of Public Health, 25*(4), 723-728. doi:10.1093/eurpub/ckv006
- Haedt-Matt, A. A., & Keel, P. K. (2011). Revisiting the affect regulation model of binge eating: a meta-analysis of studies using ecological momentary assessment. *Psychological Bulletin, 137*(4), 660-681. doi:10.1037/a0023660
- Hickman, A., & Bennett, L. (2016). *Gambling ads: Place your bets*. Retrieved from: <http://www.adnews.com.au/news/gambling-ads-place-your-bets>
- Hing, N., Cherney, L., Blaszczynski, A., Gainsbury, S., & Lubman, D. (2014). Do advertising and promotions for online gambling increase gambling consumption? An exploratory study. *International Gambling Studies, 14*(3), 394-409. doi:10.1080/14459795.2014.903989
- Hing, N., Lamont, M., Vitartas, P., & Fink, E. (2015a). Sports-embedded gambling promotions: A study of exposure, sports betting intention and problem gambling amongst adults. *International Journal of Mental Health and Addiction, 13*(1), 115-135. doi:10.1007/s11469-014-9519-9
- Hing, N., Lamont, M., Vitartas, P., & Fink, E. (2015b). How sports bettors respond to sports-embedded gambling promotions: Implications for compulsive consumption. *Journal of Business Research, 68*, 2057-2066. doi:10.1016/j.jbusres.2015.03.003
- Hing, N., Li, E., Vitartas, P., & Russell, A.M.T. (2018). On the spur of the moment: Intrinsic predictors of impulse sports betting. *Journal of Gambling Studies*. doi:10.1007/s10899-017-9719-x
- Hing, N., Russell, A.M.T., Li, E., & Vitartas, P. (2018). Does the uptake of wagering inducements predict impulse betting on sport?. *Journal of Behavioural Addictions, 7*(1):146-157. doi: 10.1556/2006.7.2018.17.
- Hing, N., Russell, A.M.T., Rockloff, M.J., Browne, M., Langham, E., Li, E., Lole, L., Greer, N., Thomas, A., Jenkinson, R., Rawat, V., & Thorne, H. (2018). *Effects of wagering marketing on vulnerable adults*. Melbourne: Victorian Responsible Gambling Foundation.
- Hing, N., Russell, A.M.T., Vitartas, P., & Lamont, M. (2016). Demographic, behavioural and normative risk factors for gambling problems amongst sports bettors. *Journal of Gambling Studies, 32*, 625-641. doi:10.1007/s10899-015-9571-9
- Hing, N., Sproston, K., Brading, R., & Brook, K. (2015). *Review and analysis of sports and race betting inducements*. Melbourne: Victorian Responsible Gambling Foundation.
- Hing, N., Sproston, K., Brook, K., & Brading, R. (2017). The structural features of sports and race betting inducements: Issues for harm minimisation and consumer protection. *Journal of Gambling Studies, 33*(2), 685-704. doi:10.1007/s10899-016-9642-6
- Hopper, J. W., Su, Z., Looby, A. R., Ryan, E. T., Penetar, D. M., Palmer, C. M., & Lukas, S. E. (2006). Incidence and patterns of polydrug use and craving for ecstasy in regular ecstasy users: An ecological momentary assessment study. *Drug and Alcohol Dependence, 85*(3), 221-235. doi:10.1016/j.drugalcdep.2006.04.012

- Hunt, S. D., Arnett, D. B., & Madhavaram, S. (2006). The explanatory foundations of relationship marketing theory. *Journal of Business & Industrial Marketing*, 21(2), 72-87. doi:10.1108/10610420610651296
- Hussong, A. M., Hicks, R. E., Levy, S. A., & Curran, P. J. (2001). Specifying the relations between affect and heavy alcohol use among young adults. *Journal of Abnormal Psychology*, 110(3), 449-461. doi:10.1037/0021-843X.110.3.449
- Joint Select Committee on Gambling Reform (JSCGR). (2011). *Interactive and online gambling and gambling advertising*. Canberra: Commonwealth of Australia.
- Joint Select Committee on Gambling Reform (JSCGR). (2013). *The advertising and promotion of gambling services in sport*. Canberra: Commonwealth of Australia.
- Korn, D., Reynolds, J., & Hurson, T. (2005). *Commercial gambling advertising: Understanding the youth connection*. Guelph, ON: Ontario Problem Gambling Research Centre. Retrieved from [http://www.greo.ca/Modules/EvidenceCentre/files/Korn%20et%20al%282009%29Commercial\\_gambling\\_advertising.pdf](http://www.greo.ca/Modules/EvidenceCentre/files/Korn%20et%20al%282009%29Commercial_gambling_advertising.pdf)
- Krippendorff, K. (2004). *Content analysis: An introduction to its methodology*, 2<sup>nd</sup> edition. Thousand Oaks CA, Sage Publications.
- Lee, H.S., Lemanski, J., & Jun, J. W. (2008). Role of gambling media exposure in influencing trajectories among college students. *Journal of Gambling Studies*, 24(1), 25–37. doi:10.1007/s10899-007-9078-0
- Litt, M. D., Cooney, N. L., & Morse, P. (2000). Reactivity to alcohol-related stimuli in the laboratory and in the field: Predictors of craving in treated alcoholics. *Addiction*, 95(6), 889-900. doi:10.1046/j.1360-0443.2000.9568896.x
- Liquor and Gaming NSW (2017). Fact sheet FS3048: Publication of gambling advertising. Retrieved from: <https://www.liquorandgaming.nsw.gov.au/Documents/gaming-and-wagering/wagering-applications/fs3048-publication-of-gambling-advertising.pdf>
- Lopez-Gonzalez, H., & Griffiths, M. D. (2017). “Cashing out” in sports betting: implications for problem gambling and regulation. *Gaming Law Review*, 21(4), 323-326. doi:10.1089/glr.2017.2144
- Lopez-Gonzalez, H., Estévez, A., & Griffiths, M. D. (2017). Marketing and advertising online sports betting: A problem gambling perspective. *Journal of Sport and Social Issues*, 41(3), 256-272. doi:10.1177/0193723517705545
- Martin, I. M., Kamins, M. A., Pirouz, D. M., Davis, S. W., Haws, K. L., Mirabito, A. M., ... & Grover, A. (2013). On the road to addiction: The facilitative and preventive roles of marketing cues. *Journal of Business Research*, 66(8), 1219-1226. doi:10.1016/j.jbusres.2012.08.015
- Newall, P. W. S. (2015). How bookies make your money. *Judgment and Decision Making*, 10(3), 225-231.
- Newall, P. W. S. (2017). Behavioral complexity of British gambling advertising. *Addiction Research & Theory*, 25(6), 505-511.



- Petty, R. E., & J.T. Cacioppo, J. T. (1986). The elaboration likelihood model of persuasion. In L. Berkovitz (Ed.), *Advances in Experimental Social Psychology*, vol. 19 (pp. 123-205). New York: Academic Press.
- Queensland Government (2017). *Australian gambling statistics, 1990-91 to 2015-16, 33<sup>rd</sup> edition*. Brisbane: Queensland Government Statistician's Office, Queensland Treasury.
- Rawal, P. (2013). AIDA Marketing Communication Model: Stimulating a purchase decision in the minds of the consumers through a linear progression of steps. *International Journal of Multidisciplinary Research in Social & Management Sciences*, 1(1), 37-44.
- Scharl, A., Dickinger, A., & Murphy, J. (2005). Diffusion and success factors of mobile marketing. *Electronic Commerce Research and Applications*, 4(2), 159-173. doi:10.1016/j.elerap.2004.10.006
- Shankar, V., & Balasubramanian, S. (2009). Mobile marketing: A synthesis and prognosis. *Journal of Interactive Marketing*, 23(2), 118-129. doi:10.1016/j.intmar.2009.02.002
- Shiffman, S., Gwaltney, C. J., Balabanis, M. H., Liu, K. S., Paty, J. A., Kassel, J. D., ... & Gnys, M. (2002). Immediate antecedents of cigarette smoking: an analysis from ecological momentary assessment. *Journal of Abnormal Psychology*, 111(4), 531. doi:10.1037/0021-843X.111.4.531
- Shiffman, S., Stone, A. A., & Hufford, M. R. (2008). Ecological momentary assessment. *Annual Review of Clinical Psychology*, 4, 1-32. doi:10.1146/annurev.clinpsy.3.022806.091415
- Sproston, K., Hanley, C., Brook, K., Hing, N., & Gainsbury (2015). *Marketing of sports betting and racing*. Melbourne: Gambling Research Australia. Retrieved from [https://www.gamblingresearch.org.au/sites/default/files/embridge\\_cache/emshare/original/public/2016/09/74/bb765bd30/gramarketingofsbandr.pdf](https://www.gamblingresearch.org.au/sites/default/files/embridge_cache/emshare/original/public/2016/09/74/bb765bd30/gramarketingofsbandr.pdf)
- Stone, A. A., & Shiffman, S. (1994). Ecological momentary assessment (EMA) in behavioral medicine. *Annals of Behavioral Medicine*, 16(3), 199-202. doi:10.1093/abm/16.3.199
- Varnali, K., & Toker, A. (2010). Mobile marketing research: The-state-of-the-art. *International Journal of Information Management*, 30(2), 144-151. doi:10.1016/j.ijinfomgt.2009.08.009

# Appendices

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## Appendix 1. Baseline survey<sup>6</sup>

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<sup>6</sup> The following appendix is the baseline survey from stage 2 (race bettors). Although there were slight wording changes in the baseline survey in stage 1 (such as referring to sports criteria rather than race) the questions were consistent in both stages.



## **Effects of wagering marketing on regular bettors Race betting**

Project Team: Professor Nerilee Hing (Chief Investigator), Dr Alex Russell, and Mr Vijay Rawat.

### **INFORMATION SHEET**

Thanks for your interest in this important project examining the effects of marketing on betting behaviour. It is funded by the Victorian Responsible Gambling Foundation (VRGF) and is being conducted by Central Queensland University and the Australian Gambling Research Centre. We greatly appreciate your previous participation where you responded to a baseline survey and some short surveys about wagering marketing. The Victorian Responsible Gambling Foundation has asked us to extend this study to look at the direct messages that people may receive from wagering operators by email, SMS and phone.

#### **Taking part**

To participate you must:

- Be 18 years or over
- Gamble at least once a fortnight on races (e.g. horses, greyhounds)
- Register your participation by answering a few quick questions now and then answer 7 short surveys in the week around the Melbourne Cup.
- Have a smart phone and mobile data plan (3G or 4G), so that you can fill in the short surveys.

#### **What you will be asked to do**

Firstly, you must register your participation by answering a few questions now. Following this, you will be required to complete 7 short surveys in the week around the Melbourne Cup. The surveys will be sent to your mobile phone via SMS from 3 November to 9 November 2017. They will each take about 5 to 10 minutes to complete.

The surveys will ask you about the number and types of any direct messages that you may receive during this week from wagering operators by email, SMS and phone. We will also ask you to forward a copy of any of these email and text messages to us each day during this week.

#### **Compensation for your time and effort**

Your time is valuable. We would like to offer you some compensation for your time and effort in the form of an electronic Coles voucher up to a maximum of \$49. After you register your participation, there are a total of 7 surveys to complete which are only about 5 to 10 minutes long. You will be

compensated \$7 for each day that you complete the survey and forward us the email and text messages you receive from wagering operators. This means the maximum compensation you will receive will be \$49 if you participate for the full 7 days.

Compensation will be through an electronic Coles voucher that will be emailed out to you at the end of the study.

### **How your confidentiality will be protected**

We will protect the confidentiality of your responses to the fullest possible extent, within the limits of the law. You have previously provided your first name and contact details and we will use these to text you each survey and to send you compensation. Your email address will be entered in the Coles Giftcard Registry in order for you to receive your compensation. All personal details will be stored in a password protected computer file **separate from any data you supply**.

We will assign a unique code to your identity and survey responses so that the research team can link these up again. When we receive the emails and SMS messages you forward to us, we will immediately delete any identifying details and replace these with your unique (de-identified) code. Please be assured that your name will not appear in the research report or any associated publications or presentations. We will also remove any references to personal information that might allow someone not on the research team to guess your identity. The data will be kept securely by CQUniversity. As soon as all survey data for this project has been collected, your personal details will be destroyed so that your data can never be linked back to you.

In accordance with the Productivity Commission's recommendations to improve research into gambling, the de-identified data (the data collected without any way of identifying you) will be data warehoused and may be used by other researchers in the future. These researchers would need to supply an appropriate research proposal and have obtained approval from the Human Research Ethics Committee before access to the de-identified data would be given.

### **Participation will not prejudice you in any way**

Please be advised that your participation in this study is completely voluntary. Should you wish to withdraw at any stage you are free to do so without prejudice or penalty.

### **How you will receive feedback**

This research is being conducted for the Victorian Responsible Gambling Foundation. The final report will be publicly available on their website at the end of the project ([www.responsiblegambling.vic.gov.au](http://www.responsiblegambling.vic.gov.au)).

### **Where you can get further information**

Should you require any further information or have some questions about participation please contact Vijay Rawat on [wageringstudy@cqu.edu.au](mailto:wageringstudy@cqu.edu.au). If you have broader queries or concerns about the research, please do not hesitate to contact the Chief Investigator (Nerilee Hing) on [n.hing@cqu.edu.au](mailto:n.hing@cqu.edu.au). You are also welcome to contact the Ethics and Compliance Officer at the Office of Research on 07 4923 2603. This study has been approved by CQU Human Research Ethics Committee (H1606-178).

Some of the questions we ask will be about your gambling behaviour. If you experience discomfort at any point during the surveys, you can contact Gambler's Help on 1800 858 858 or

www.gamblinghelponline.org.au. These are free and confidential telephone/online help services that operate 24 hours a day, 7 days a week.

### **Taking part**

If you would like to participate CLICK NEXT. You will be asked to indicate that you are 18 years of age or over, bet on races at least once a fortnight, and have read and understood this information by checking the acknowledgement accompanying the consent form. You will also be asked to provide your contact details. We will then register you for the study and text you a reminder about the surveys during the week before they commence.

### **Consent to participate**

I consent to participation in this research project and agree that:

- I have read and understood the Information Sheet that describes this study.
- Any questions I had about the project were answered by either the Information Sheet or the researchers.
- I understand I have the right to withdraw from the project at any time without penalty.
- The research findings will be included in the researchers' publication(s) on the project; and this may include conference presentations and research articles as well as other media described in the Information Sheet.
- To protect my privacy, my name will not be used in publication(s).

I am providing informed consent to participate in this project

- Yes
- No

I am 18 years of age or over

- Yes
- No

I gamble at least once a fortnight on races (e.g. horses, greyhounds)

- Yes
- No

Are you currently opted in to receive notifications from wagering operators?

- Yes
- No

Will you remain opted in to notifications from wagering operators during the week around the Melbourne Cup?

- Yes
- No

I am willing to answer multiple short surveys during the week around the Melbourne Cup.

- Yes
- No

Firstly, we need you to confirm your contact information so we can contact you for the surveys. We take your confidentiality very seriously and will only use your name to get in touch with you if needed.

Please enter your contact details here.

Q1. Please enter your first name. \_\_\_\_\_

Q2. Please enter your primary mobile number without any spaces in between (survey links will be sent to this number). You will need to complete the remaining short online surveys on your smart phone, so please make sure you provide a working mobile number

\_\_\_\_\_

Q3. Please verify your mobile number. \_\_\_\_\_

Q4. Secondary landline or mobile number (if available). We will only use your secondary landline or mobile number if we are unable to maintain contact through your primary mobile number. \_\_\_\_\_

Q5. Please enter your email address. Your electronic Coles voucher will be emailed to you, so please make sure you provide a valid email address. \_\_\_\_\_

Q6. Please verify your email address. \_\_\_\_\_

Q7. Please enter your postcode \_\_\_\_\_

Q8. In the past 12 months, which of the following types of races have you bet on? Please select all that apply.

- Horse
- Greyhound
- Other racing (please specify) \_\_\_\_\_

Q9. During the last 12 months, about how often have you bet on each of the following types of races?

	About once a month or less	About once a fortnight	About once a week	Multiple times a week
Horse	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Greyhound	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
#{Q19/ChoiceTextEntryValue/13}	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q10. Which of the following Australian-licensed betting operators do you have a wagering account with? Please click all that apply.

- Betfair
- Betstar
- Bookmaker.com.au
- Bet365
- Centrebet
- Crownbet
- Ladbrokes
- Luxbet
- Sportsbet
- Sportingbet
- TAB
- UBet
- Unibet
- William Hill
- Other (please specify) \_\_\_\_\_

Q11. How often have you bet with the following operators in the past 12 months?

	Not in the past 12 months	About once a month or less	About once a fortnight	About once a week	Multiple times a week
Betfair	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Betstar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bookmaker.com.au	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bet365	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Centrebet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Crownbet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ladbrokes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Luxbet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sportsbet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sportingbet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

TAB	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
UBet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unibet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
William Hill	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
#{Q21/ChoiceTextEntryValue/257}	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q12. During the last 12 months, how often:

	Never	Sometimes	Most of the time	Almost always
Have you gambled more than you could really afford to lose?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you felt guilty about the way you gamble or what happens when you gamble?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you needed to gamble with larger amounts of money to get the same feeling of excitement?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When you gamble, did you go back another day to try to win back the money you lost?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you borrowed money or sold anything to get money to gamble?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Has your gambling caused any financial problems for you or your household?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Has gambling caused you any health problems, including stress or anxiety?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have people criticised your gambling or told you that you had a gambling problem because of your gambling, regardless of whether or not you thought it was true?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you felt that you might have a problem with gambling?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Thank you very much for completing those questions. That brings us to the end of your registration.

As mentioned previously, the short surveys will commence around the Melbourne Cup. So the first survey commences on the 3rd of November and we will send out the survey invitations accordingly.

If you experienced discomfort at any point during the survey, you can contact Gambler’s Help on 1800 858 858 or [www.gamblinghelponline.org.au](http://www.gamblinghelponline.org.au). These are free and confidential telephone/online help services that operate 24 hours a day, 7 days a week. This help service is not affiliated with this survey. Please click the next button below to submit your responses and close the survey.



## Appendix 2. Daily EMA survey<sup>78</sup>

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<sup>7</sup> The following appendix is an example of a daily survey from stage 2 (race bettors). Although there were slight wording changes in the daily survey in stage 1 (such as referring to sports rather than race) the questions were consistent in both stages.

<sup>8</sup> Survey programming was implemented on the online survey, however is not visible in the appendix presented below. For example, skip logic was applied to certain questions if a participant indicated they received 0 text messages, emails, and phone calls in the past 24 hours.



**Effects of wagering marketing on regular bettors.**

Wednesday Survey.

Thank you for registering to take part in this study.

Remember, to be rewarded, you need to email or text us each day (**even if you have not received any texts or emails from wagering operators**). The last page of the survey has these instructions. We want to make sure that you're rewarded for your participation.

**Please note that this survey refers only to race betting (on horses and greyhounds) and does NOT include betting on sports.**

Q1. In the 24 hours before 4PM today (Wednesday), how many **different** wagering operators have contacted you about race betting via **emails, texts, or phone calls**? \_\_\_\_\_

Q2. In the 24 hours before 4PM today (Wednesday), how many emails, text messages, and phone calls have you received from wagering operators about race betting? If none, please enter 0.

- Emails \_\_\_\_\_
- Text messages \_\_\_\_\_
- Phone calls you answered \_\_\_\_\_
- Phone calls you missed or didn't answer \_\_\_\_\_

Q3. How many of these emails, text messages, and phone calls directly resulted in you placing, or planning to place, a bet?

	None of them	A minority of them	About half of them	Most of them	All of them
Emails	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Text messages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Phone calls	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q4. Thinking about the emails, texts or phone calls you received in the 24 hours before 4PM today (Wednesday) did (or will) they influence your race betting in any of the following ways?

	No	Yes
To bet smaller amounts	<input type="radio"/>	<input type="radio"/>
To bet larger amounts	<input type="radio"/>	<input type="radio"/>
To place fewer bets	<input type="radio"/>	<input type="radio"/>
To place more bets	<input type="radio"/>	<input type="radio"/>
To place safer bets (shorter odds)	<input type="radio"/>	<input type="radio"/>
To place riskier bets (longer odds)	<input type="radio"/>	<input type="radio"/>
To bet with the operator who sent the message	<input type="radio"/>	<input type="radio"/>
It reminded you to bet	<input type="radio"/>	<input type="radio"/>
To place a bet you otherwise wouldn't have placed	<input type="radio"/>	<input type="radio"/>
Other influence	<input type="radio"/>	<input type="radio"/>

Q5. You noted that the emails, text messages, and phone calls received in the last 24 hours have, or might, influence your betting in an 'other' way. Please specify the 'other' way your race betting might be influenced. \_\_\_\_\_

Q6. Overall, how would you rate the messages (emails, texts, and phone calls) that you received in the past 24 hours prior to 4PM today (Wednesday)?

	Not at all (1)	2	3	4	Extremely (5)
Useful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Welcome	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Annoying	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personalised	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attractive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Excessive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deceptive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q7. Compared to other times of the year, have you received more or less of these emails, texts, and phone calls in the 24 hours before 4pm today (Wednesday)?

- A lot less
- A bit less
- About the same
- A bit more
- A lot more

Q8. Which wagering operators did you receive **text messages** from in the 24 hours, prior to 4PM today (Wednesday)?

- Betfair
- Betstar
- Bookmaker.com.au
- Bet365
- Centrebet
- Crownbet
- Ladbrokes
- Luxbet
- Sportsbet
- Sportingbet
- TAB
- UBet
- Unibet
- William Hill
- Other (please specify) \_\_\_\_\_

Q9. Which wagering operators did you receive **phone calls** from in the 24 hours, prior to 4PM today (Wednesday)?

- Betfair
- Betstar
- Bookmaker.com.au
- Bet365
- Centrebet
- Crownbet
- Ladbrokes
- Luxbet
- Sportsbet
- Sportingbet
- TAB
- UBet
- Unibet
- William Hill
- Other (please specify) \_\_\_\_\_

Q10. How many **phone calls** that you received from wagering operators in the 24 hours before 4PM today (Wednesday) were about:

- A specific promotion around betting e.g. bonus bets, better odds, cash back offer
- Reminder that a dog/horse/jockey you've bet on before is racing
- General reminder/prompt to bet
- General reminder about the race betting brand/operator
- How to improve your betting experience (download app, replays, etc.)
- Their rewards program
- That you are not eligible for certain promotions, bets or odds
- Other

If none, please enter 0.

Q11. You noted that one or more of the calls you received in the 24 hours prior to today (Wednesday) was for an 'other' reason. Please specify the reason(s) \_\_\_\_\_

Q12. You noted that you answered  $\{Q4/ChoiceTextEntryValue/3\}$  phone call(s) from race betting operators. Did you place a bet with the operator over the telephone **during** any of these calls?

- None of them
- A minority of them
- About half of them
- Most of them
- All of them

For the following two questions please only answer using whole numbers. Do not enter a dollar sign or commas.

Q13. How much money (\$) did you place on race bets in the 24 hours **prior** to 4PM today (Wednesday)? \_\_\_\_\_

Q14. How much money (\$) do you **intend** to bet between 4PM today (Wednesday) and 4PM tomorrow (Thursday)? \_\_\_\_\_

**PLEASE READ THIS PAGE SO WE CAN REIMBURSE YOU** The last thing we need you to do is forward your emails and text messages to us. We take your anonymity seriously, and your name, email address and phone number will not be stored or reported.

You noted you received  $\{Q4/ChoiceTextEntryValue/1\}$  email(s) from race betting operators in the last 24 hours, prior to 4PM today (Wednesday). **Please forward this email(s) to [wageringstudy@cqu.edu.au](mailto:wageringstudy@cqu.edu.au)**

We have your email as  $\{m://Email1\}$

If you forward us the email from a different address, please mention that in your forwarded email so we know it's from you and we can reimburse you.

You noted you received  $\{Q4/ChoiceTextEntryValue/2\}$  text message(s) from race betting operators in the last 24 hours, prior to 4PM today (Wednesday). **Please forward this text message(s) to 0488 824 624.**

For Android systems (such as Samsung phones) you do this by holding your finger down on the message you'd like to forward, then a list of options will appear. Press 'forward', enter in **0488 824 624** into the recipient box, and send.

For iOS (such as iPhone) hold your finger down on the message you'd like to forward. A pop up will appear, and please then select the 'more' option. Click on the arrow which will appear at the bottom of the page. Then please enter **0488 824 624** and send.

Another option would be to copy the message, and paste it as a reply to the message from which you received the survey invitation.

Or you may take screenshots of the text message and forward these to **[wageringstudy@cqu.edu.au](mailto:wageringstudy@cqu.edu.au)**

Please confirm that you have forwarded to **[wageringstudy@cqu.edu.au](mailto:wageringstudy@cqu.edu.au)** OR **0488 824 624** the emails and text messages received from wagering operators in the 24 hours prior to 4PM today (Wednesday).

- No
- Yes

**If you have not received emails or text messages, we still need to hear from you!** Please send an email to **[wageringstudy@cqu.edu.au](mailto:wageringstudy@cqu.edu.au)** OR text message **0488 824 624** saying "I have not received any emails or text messages from race betting operators in the last 24 hours, prior to 4PM today (Wednesday)."

If you do not email or text us unfortunately we will be unable to reimburse you for this survey - so please do not forget.

**Please click >> to move to the last page**

**Please click the >> button below to submit your responses and close the survey.**

Thanks for taking the time to complete the survey. We really appreciate your time and effort. We'll send you a link to the next survey tomorrow.

Remember every survey you complete is valuable!

If you experienced discomfort at any point during the survey, you can contact Gambler's Help on 1800 858 858 or [www.gamblinghelponline.org.au](http://www.gamblinghelponline.org.au). These are free and confidential telephone/online help services that operate 24 hours a day, 7 days a week. This help service is not affiliated with this survey.

## **Appendix 3. Characteristics of participants in the baseline samples**

## Socio-demographic characteristics

Variable	Sub-category	Sports N (%)	Race N (%)
Gender	Male	95 (93.1)	103 (93.6)
	Female	7 (6.9)	7 (6.4)
Age (years)	18 – 24	5 (4.9)	3 (2.7)
	25 – 34	31 (30.4)	21 (19.1)
	35 – 44	25 (24.5)	37 (33.6)
	45 – 54	20 (19.6)	23 (20.9)
	55 – 64	11 (10.8)	16 (14.5)
	65 +	10 (9.8)	10 (9.1)
Residence	ACT	3 (2.9)	-
	NSW	21 (20.6)	23 (20.9)
	NT	1 (1.0)	-
	QLD	13 (12.7)	10 (9.1)
	SA	8 (7.8)	2 (1.8)
	WA	8 (7.8)	11 (10.0)
	VIC	48 (47.1)	62 (56.4)
	TAS	-	2 (1.8)
Education level	Year 10 or below	11 (10.8)	9 (8.2)
	Year 11 or equivalent	4 (3.9)	7 (6.4)
	Year 12 or equivalent	18 (17.6)	21 (19.1)
	A trade, technical certificate or diploma	24 (23.5)	32 (29.1)
	A university of college degree	31 (30.4)	31 (28.2)
	Postgraduate qualifications	14 (13.7)	10 (9.1)
Main language spoken	English	96 (94.1)	109 (99.1)
	Other	6 (5.9)	1 (.9)
Country of birth	Australia	84 (82.4)	94 (85.5)
	Other	18 (17.6)	16 (14.5)
Living arrangement	Live alone	9 (8.8)	13 (11.8)
	Couple (living alone)	29 (28.4)	35 (31.8)
	Couple with at least one dependent child	34 (33.3)	30 (27.3)
	Couple living with independent child(ren)	10 (9.8)	14 (12.7)
	Single parent living with at least one dependent child	1 (1.0)	3 (2.7)
	Single parent living with independent children	2 (2.0)	-
	Share house with other adults	7 (6.9)	7 (6.4)
	Live with parents	7 (6.9)	7 (6.4)
	Other	3 (2.9)	1 (.9)
Employment status	Full time	70 (68.6)	70 (63.6)
	Part time or casual	9 (8.8)	13 (11.8)
	Student	4 (3.9)	1 (.9)
	Unemployed and looking for work	1 (1.0)	3 (2.7)
	Full-time home duties	3 (2.9)	2 (1.8)
	Retired	7 (6.9)	12 (10.9)
	Sick or on disability pension	4 (3.9)	4 (3.6)
	Other	4 (3.9)	5 (4.5)



## Type of sports/racing bet on in the past 12 months

Stage	Sport	N (%)
Stage 1* (N = 102)	AFL	98 (96.1)
	NRL	80 (78.4)
	Soccer	67 (65.7)
	Tennis	62 (60.8)
	Cricket	51 (50.0)
	Rugby Union	30 (30.4)
	Baseball	31 (30.4)
	Basketball	44 (43.1)
	Boxing	30 (29.4)
	Golf	16 (15.7)
	MMA - UFC	19 (18.6)
	American football	46 (45.1)
	Other	20 (19.6)
	<b>Racing type</b>	<b>N (%)</b>
Stage 2* (N = 110)	Horse	109 (99.1)
	Greyhound	75 (68.2)
	Other	35 (31.8)

\*Participants could select multiple responses for this question, therefore total N exceeds 100%

## Frequency of types of sports/racing bet on in the past 12 months

Sport (stage 1)*	About one a month or less N (%)	About once a fortnight N (%)	About once a week N (%)	Multiple times a week N (%)	Total N (%)
AFL	14 (14.3)	19 (19.4)	32 (32.7)	33 (33.7)	98 (100)
NRL	20 (25.0)	16 (20.0)	26 (32.5)	18 (22.5)	80 (100)
Soccer	30 (44.8)	12 (17.9)	14 (20.9)	11 (16.4)	67 (100)
Tennis	38 (61.3)	11 (17.7)	4 (6.5)	9 (14.5)	62 (100)
Cricket	35 (68.6)	10 (19.6)	3 (5.9)	3 (5.9)	51 (100)
Rugby Union	20 (66.7)	7 (23.3)	1 (3.3)	2 (6.7)	30 (100)
Baseball	16 (51.6)	4 (12.9)	6 (19.4)	5 (16.1)	31 (100)
Basketball	17 (38.6)	13 (29.5)	8 (18.2)	6 (13.6)	44 (100)
Boxing	29 (96.7)	1 (3.3)	-	-	30 (100)
Golf	12 (75.0)	2 (12.5)	2 (12.5)	-	16 (100)
MMA - UFC	11 (57.9)	6 (31.6)	2 (10.5)	-	19 (100)
American football	19 (41.3)	9 (19.6)	12 (26.1)	6 (13.0)	46 (100)
Other	4 (20.0)	5 (25.0)	6 (30.0)	5 (25.0)	20 (100)
<b>Racing (stage 2)</b>					
Horse	3 (2.8)	7 (6.4)	30 (27.5)	69 (63.3)	109 (100)
Greyhound	19 (25.3)	8 (10.7)	21 (28.0)	27 (36.0)	75 (100)
Other	12 (34.3)	6 (17.1)	9 (25.7)	8 (22.9)	35 (100)

\*Sports are seasonal, and so the frequencies presented are the participants' subjective estimate of the average over the past year.

Number of operators they held accounts with

Number of operators	Sports N (%)	Race N (%)
1	11 (10.8)	18 (16.4)
2	20 (19.6)	14 (12.7)
3	13 (12.7)	21 (19.1)
4	18 (17.6)	16 (14.5)
5	11 (10.8)	7 (6.4)
6	8 (7.8)	9 (8.2)
7	7 (6.9)	5 (4.5)
8	4 (3.9)	3 (2.7)
9	2 (2)	4 (3.6)
10	2 (2)	1 (0.9)
11	1 (1)	3 (2.7)
12	2 (2)	5 (4.5)
13	2 (2)	1 (0.9)
14	-	-
15	-	1 (0.9)
16	1 (1)	1 (0.9)
20	-	1 (0.9)

Problem gambling status

Gambling status	Sports N (%)	Race N (%)
Non-problem	21 (20.6)	23 (20.9)
Low-risk	31 (30.4)	26 (23.6)
Moderate-risk	36 (35.3)	38 (34.5)
Problem gambler	14 (13.7)	23 (20.9)

## **Appendix 4. Examples of direct messages with different types of inducements**

Bonus or better winnings

# AFL Grand Final Double Winnings

If your team wins, we will  
double your winnings up to  
\$55 in Bonus Bets

Place a Head to Head bet on the  
AFL Grand Final & if your  
selection wins we will double  
your winnings up to \$55 in  
Bonus Bets

Refund/stake back offer

## ROSEHILL R1-4 SPECIAL

Run 2nd or 3rd and get up to \$50 back in bonus bets.

**BET NOW**

Match (or partially match) your stake/deposit

Don't miss your exclusive \$50 Bonus Bet offer for the weekend below!

It's an action packed weekend of **Racing, AFL & NRL**. Don't miss out!

**Bet Now**

- 1 **Make your next Deposit**
- 2 **We'll match that amount in Bonus Bets up to \$50**
- 3 **Hurry! Bonus Bet offer expires Midnight (AEDT/AEST) this Sunday.**
- 4 **\*Bonus Bet Terms & Conditions apply. View [here](#)**

Multibet offer

**AFL GRAND FINAL SAME GAME MULTI!**

Place a 3+ leg Same Game Multi on any AFL Final this week, and if one leg fails, get up to \$55 back in Bonus Bets

Sign up offer

**Grand Final Weekend Special**

Join Today  
Deposit \$300 & Receive \$600 in Bonus Bets\*

**\*\*\*INCLUDES NSW\*\*\***

Bonus or better odds



Competitions



Refer a friend offer

**SCORE \$100 WHEN YOU SHARE THE LOVE.**

Simply tell a friend about the joy of \_\_\_\_\_ and we'll bung \$100 in your personal betting account to say thanks. Share on Twitter, Facebook or by using their email address, and when someone starts a club with at least 3 members, you'll find \$100 waiting for you. May it go forth and multiply. [Terms and conditions apply](#)